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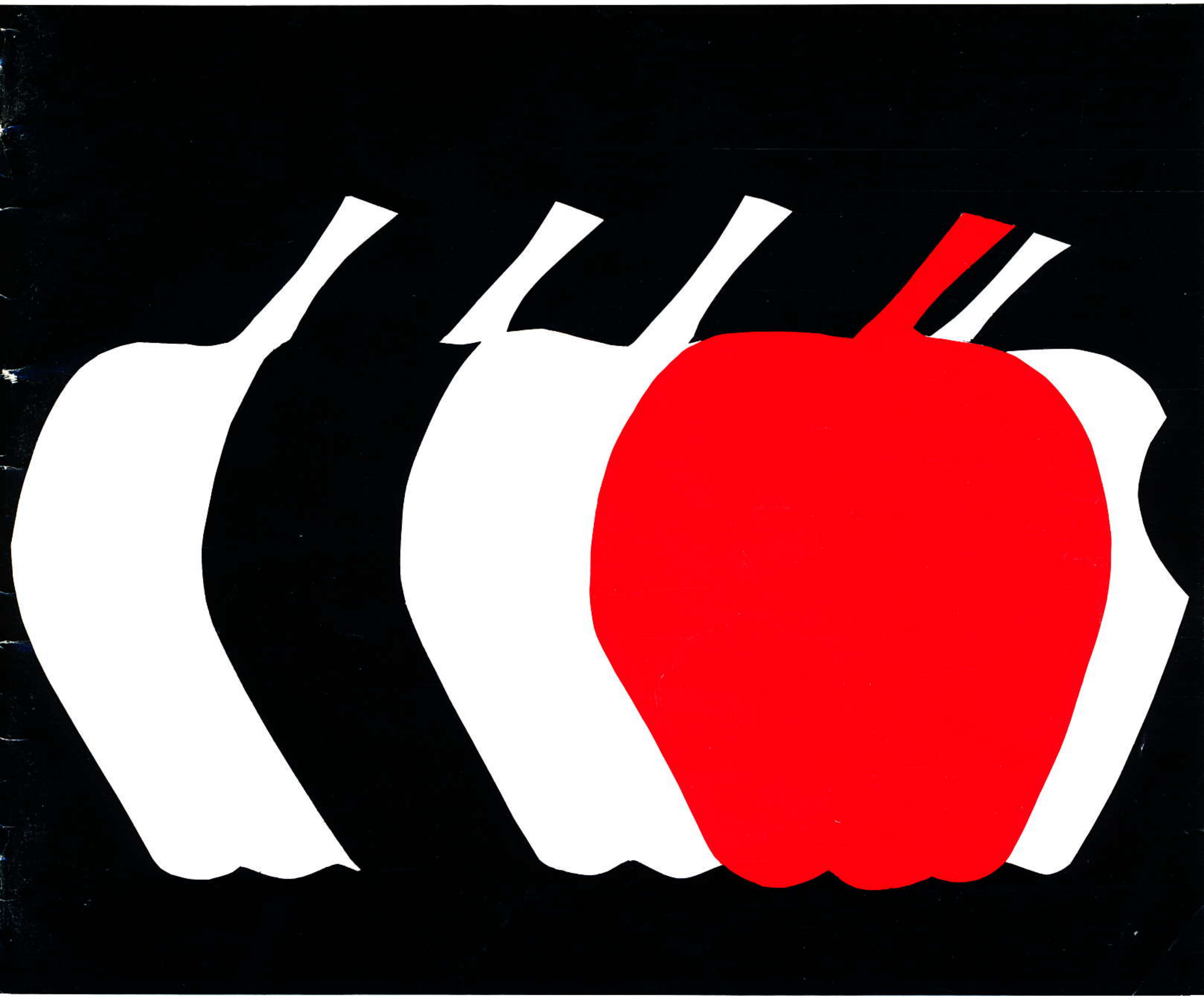

To Eat or Not to Eat

Canadian
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Journal

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d'économie familiale

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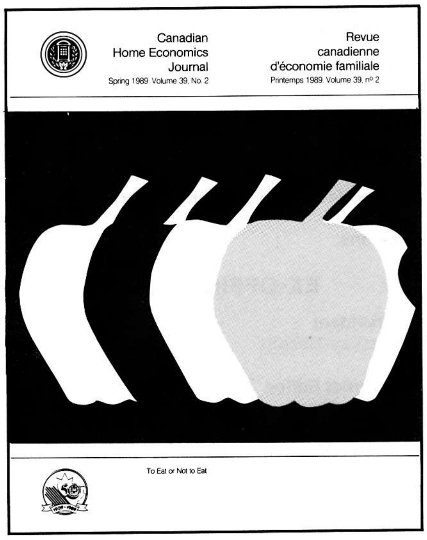

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from the Editor

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Pictured here are members of your Executive Board who met in Calgary this past January, for two days of discussions on matters affecting all members of CHEA. Some of the items pertained to the Journal and those are the ones that I would like to relate to the readership at this time.

We are dispensing with the idea of a theme for each issue of the Journal, for the time being. It was felt that perhaps members are hesitant to contribute articles because their area of expertise is not deemed to be covered by any particular theme. Hopefully members and non-members alike, will take a greater initiative and submit articles and ideas more freely than in previous months.

We are also opening up the "What Do You Say When" column to all subject areas of CHEA. This should help provide more variety to this popular column and perhaps it can be reinstated in the Summer issue of the Journal.

The format of the Journal will remain the same, that is, with a mix of research and general articles. All members will benefit from a continuation of this popular format.

All of the above actions have been taken to encourage members to contribute their thoughts and ideas to the Journal. This spirit of cooperation has fallen off in the past few months. Often times the readership survey will contain a great idea that the editorial board would like to follow up and have written into an article. However, when the ideas are anonymous, it is very difficult for us to use your comments and suggestions to all our advantage. Our membership is made up of people with such diverse occupations and interests, that it is very unfortunate that some are hesitant to share these with other readers. It is hoped that when you receive your Journal Survey with your membership renewal, that you will sign your name and address to this survey and allow us to contact you to further pursue some of those ideas that you have and wish to see in print.

It is fitting, that during our 50th year, Wanda Young has compiled a survey of foods and nutrition topics that have appeared in the Journal over the past few years. Dr. Young describes how the social issues of a particular time dictate the food and nutrition topics that concern people the most.

Suzanne McClung, a senior student at the University of Alberta, has given her personal ideas and feelings about being a home economist. The Journal is pleased to have University students contribute their thoughts to the readership from time to time, and Suzanne has done so very well.

The third and final article in Sue McGregor's series on policy making and the home economist's involvement, is featured in this issue. These articles have been very informative and hopefully the readers will have a greater sense of awareness of how they can become involved in policy and decision making in their profession and in our country.

Microwaveability and Food Packaging is the timely topic of an article written by Judith Fraser and Eileen LeBlanc. How the packaging companies are trying to formulate new packaging to ensure a quality, microwaved product is discussed, along with the problems that they have encountered.

Joan Quilling gives an updated review of the dual-earner family. She shows that the place of the woman in the work world has not advanced as far as it should and that society still doesn't know how to deal with dual-earner families.

In the Research Section, Shirley Chen describes a study of soy frozen desserts, which have been formulated with soy milk or tofu. She designed her study to test the quality, nutritional content, and perceived taste of soy milk frozen products, as compared to products made from commercially produced milk.

Jennifer Grieve-Malpass and E.M. Crown conducted a survey to determine satisfaction in carpet buyers. These researchers wanted to determine if people were happier with their carpet selections, if they had taken time before the purchase to investigate the product thoroughly.

As can be seen from the above selection of articles, most of the subject areas of Home Economics are covered in this issue of the Journal. We thank the authors for giving of their time and encourage our members to become involved with your Journal. ☐

The Early Years of the Canadian Home Economics Journal: Food and Nutrition

Wanda Young

Abstract

The purpose of this paper was to analyze the *Canadian Home Economics Journal (CHEJ)* in order to identify the authors and the food and nutrition themes used in papers, reports, abstracts, book reviews, and other writings. A total of 98 issues of the Journal from 1950 to 1975 were analyzed. Just under 50% of the papers related to food and nutrition. The most frequently used concept was food preparation due to reviews of cookbooks and reference to food in the "What's New" column. Themes related to social history included war and civil defence; nutritional status; consumerism; the small planet; social conditions concerned with world resource use, people with problems, advocacy, and the environment; technology of food and communication; research; change; and cooperation. The "Abstracts of Current Literature" and "Book Reviews" columns were 45% and 55% devoted to food and nutrition themes. The frequency of food and nutrition themes can be considered important.

Résumé

Le but de cet article était d'analyser la *Revue canadienne d'économie familiale* (RCEF) afin d'identifier les auteurs ainsi que les thèmes relatifs aux aliments et à la nutrition utilisés dans les articles, rapports, résumés, critiques de livres et autres écrits. On a analysé un total de 98 numéros de la revue, de 1950 à 1975. Près de 50 % des articles étaient reliés à la nourriture et à la nutrition. Le concept le plus fréquemment utilisé était la préparation des aliments étant donné les critiques de livres de cuisine et les références à l'alimentation dans la colonne "What's New?". Parmi les thèmes relatifs à l'histoire sociale, on retrouvait guerre et défense passive; statut nutritionnel; consommation; petite planète; conditions sociales portant sur l'utilisation des ressources mondiales, les gens aux prises avec des problèmes, l'aide et l'environnement; technologie de l'alimentation et communication; recherches; changements et coopération. Les colonnes de résumés des documents actuels et de critiques de livres étaient 45 % et 55 % consacrés aux thèmes de la nourriture et de la nutrition. Nous pouvons ainsi dire que la fréquence des thèmes "aliments" et "nutrition" est importante.

The Canadian Home Economics Association is celebrating fifty years of action in 1989. As early as February 1940 a need was felt to communicate with the membership. Marie Holmes undertook the production of a newsletter to fill this need. Until 1950 four newsletters were published each year. The newsletter was extended to become a journal in 1950. The period from 1950 to 1975 has been defined as the early years of the *Canadian Home Economics Journal (CHEJ)* for this study.

Food and nutrition were chosen as topics to limit the study. At the University of Saskatchewan dietetics and nutrition were the first areas to be saved in phasing out of the College of Home Economics. In an opinion study with home economics education students in 1988, Young found that health through nutrition and food was considered the most important concept to include in the preparation of teachers. This was the finding by Young (1977) in a study to determine a curriculum in family studies. These are personal experiences of the author which show the importance of food and nutrition in home economics. Were the topics of food and nutrition important in *CHEJ*, the journal of the professional association?

The purpose of this study was to analyze the *Canadian Home Economcis Journal (CHEJ)* to meet these objectives:

- To identify the food and nutrition themes used in papers and reports, abstracts, book reviews, and other writings in the *CHEJ*.
- To determine the authors writing for the *CHEJ*.

Rationale for the Study

The personal reasons stated above indicate a need for support of ideas. Such reassurance is the purpose of a study of history (Barzun and Graff 1957). The study of food and nutrition

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in *CHEJ* will lay a foundation for better understanding of the home economics discipline (Brickman 1949). Looking at the past will help the reader learn about the place of food and nutrition in the scheme of home economics and the place of both in society. We are in a period of change and this knowledge of tradition will help the adjustment (Hockett 1955). Should the change bring bad times, home economists will be better able to ward off panic, and avoid self pity and resignation, by developing judgement through historical introspection (Gagnon 1988).

Procedures

Historical research methods were used in this study, as described in Hillison and Burge (1988), based on Gray (1964). The topic food and nutrition was chosen. The issues of the *CHEJ* from volume 1, number 1, 1950 to Volume 25, number 4, 1975, inclusive, a total of 98 issues, were examined. General notes were taken. The evidence was analyzed and sorted according to headings and patterns were determined.

Themes

Statistical Information

Papers During the period from 1950 to 1975 a total of 462 papers were published in the *CHEJ*. Of these, 229 related to food, dietetics, or nutrition themes and 233 related to other themes. The percentage is very close, 49.57 percent of the papers were focused on food or nutrition and 50.43 percent were focused on other areas within home economics, such as clothing and textiles, education, family and consumer studies, management, housing and design, and child development. It should be noted that a greater number of the papers related to food (133 or 58.08%) than to nutrition (96 or 41.92%). Included in the papers classified as food were preparation, processing, storage, purchasing, and papers about equipment and world food conditions. The nutrition papers related to nutrients, disease, hunger, and malnutrition. Curriculum studies were common to both. Longer papers about food and nutrition occurred more frequently in the earlier part of the period studied.

A total of 291 concepts appeared in the analysis of themes about food and nutrition. Of these 84 concepts occurred more than 10 times each. The most frequent reference was to food preparation (n=157). This large number accrued because a number of cookbooks were reviewed. In addition, the "What's New" and "Happenings" columns frequently referred to new food products and their preparation. At no times did recipes appear. The next theme in frequency was equipment (n=78), also common in the two columns mentioned above. Media in some form was mentioned 75 times. Nutrition education (n=74) was referred to in many of the papers. Convenience food (n=68) was common in the "What's New" column. The most frequently mentioned individual food was meat (n=66), while milk and dairy foods (n=65) were the next most frequently mentioned. Research was mentioned 52 times and even before the refereed section was in place there were research papers, primarily surveys. The most common single nutrition topic was obesity or overweight at n=51.

The popularity of food, dietetics, and nutrition topics must reflect importance when the occupation of members of the Canadian Home Economics Association is considered. In September 1975 the membership was 1861. There were 20 nutritionists, 62 dietitians, and 206 home economists in business (Editor 1976).

Social History

War and civil defence In the early 1950s Canada was recovering from World War II. Some papers referred to food problems, such as rationing and shortages, and others to nutritional problems that had arisen due to the shortages (Walker 1953, Smith 1964). From war time defence, Canada developed plans for civil defence food service in case of emergencies, such as nuclear explosions; natural crises, such as flooding in Manitoba and British Columbia (Elliott 1957); and rescue workers (Snook 1957). Sackville (1961) advised how to use school facilities for emergency feeding.

> "One of the greatest contributions to world peace may well be in the form of increased knowledge concerning food production and food use" (King 1958, p. 126)

Nutritional status Reports from the Canadian Council on Nutrition about the Nutrition Canada surveys indicated an interest in improving the nutritional status of Canadians. The surveys caused the Canadian dietary standard to be revised (Bain 1952, MacBeth 1961).

Surveys, explained by Abell (1954), were used to keep tab of the Canadian body build (MacBeth 1955). The use in the body of vitamin C was studied by Smith (1955). Dube (1955) considered dairy products. McHenry (1956) zeroed in on calcium, phosphorus, and vitamin D; and the consumption of food (1959). Beaton (1967) reported on food toxicity. Rathman (1969) wrote of "cholesterol, calories, and coronaries". Wardlaw, Beamish, and Trerice (1957); Armstrong, Peckham, Templeton, Bodley, and McLaren (1964); and Robson (1971) examined the food habits of school children.

Trends were reported by a number of nutritionists. King (1957) and Beaton and Milne (1964) gave general reports of the entire field. Beaudoin (1955) explained trends in reducing diets. Bucknam (1972) described health foods as the phenomena of the seventies.

In the later part of the period one of the main concerns was the problem of obesity (Sabry 1974). Earlier, Baxter (1959) described the skinfold test used to measure obesity. McDonald (1970) identified the physiological factors affecting obesity.

> "The afternoon snack has been labelled, the pause that refleshes". (Editor 1957, p.13)

The importance of nutrition was explained by Elizabeth Chant Robertson (1960). This importance was the focus of organizations such as the Nutrition Society of Canada (Editor 1958) and the Nutrition Division of the Department of Helath and Welfare. Nutritionists with the provincial extension services also had a role (Pattillo 1962).

Consumerism After the war, an era of affluence and prosperity occurred in the sixties. Home Economists were concerned with buying attitudes and consumer problems. The Canadian Association of Consumers (Jefferson 1956) worked with home economists to standardize measurements and study meat and milk regulations. The interest in measures occurred again at the end of the period when President Margaret Pope (1974) referred to metric conversion; Isabelle Morrison (1974) explained the process; and Wendy Sanford (1976), chairman of the Canadian Home Economics Association's (CHEA) metric committee took the process into the later years of the *CHEJ*.

The Department of Health and Welfare was concerned with consumers, as explained by Ordway (1960) and Pope (1967, 1970). Chapman (1954) clarified the legislation that provided consumer protection. Ordway and Janssens (1961) surveyed Canadian attitudes toward packaging, labelling, and chemicals in food; reaction to advertising about fats and cholesterol (1963); consumer guilt (Ordway 1962); and Vitamin C (1964). Morrison (1973) observed that there were problems in assessing the safety and nutritional value of foods in Canada.

Consumer education was offered by other government departments as well. Stewart (1960) explained the program of the Department of Fisheries. Pepper (1961) discussed the work of the Department of Agriculture. Basford (1969) identified the role of the Department of Consumer and Corporate Affairs.

Small planet Throughout the early years period, home economists showed a concern for global happenings and international food and nutrition problems. The first international paper to appear was the discussion by Cosens (1951) of homemaking education in Norway, which referred to Norwegian food. The list includes 23 other papers on such varied topics as ethnic food, nutritional status, food production and processing, and culture and traditions by dietitians, nutritionists, and home economists who have worked and travelled in all parts of the world.

A number of Canadian home economists have had postings through the Food and Agriculture Organization (FAO). Reynolds (1952) introduced FAO as a topic. Margaret Hockin Harrington described the work and objectives of FAO in 1953, 1954, and 1971, stressing the work of home economists in addressing the problems of women and the family. In 1959 Haglund described the home economics program. Shebeski (1961) related the work of FAO to the increase in world population and dwindling resources.

Social Conditions

World Resource Use In the early sixties, concern for food resources was shown in papers by Southwork (1963) and Cosens (1963). Southwork related problems with food resources to such social conditions as the theory of exchange, conditions of land reform, and the effect of religion. Cosens was concerned with the role of women. Truman (1962) wrote poetically in support of the Freedom From Hunger campaign and the Mysore project in an article that might well have been entitled "I Am Hunger". Share-a-loaf cards were adopted by home economists to support the campaign.

The interest in world food resources did not decrease as the *CHEJ* aged, but the world development was more appropriate. Hulse (1973) and the Canadian Home Economics Association Committee for International Development (1975) recommended activities home economists could pursue in the field of international development.

"We are feeding our livestock and pets more efficiently than our people, especially the poor". (Schaefer 1969, p.10).

People with problems Poverty stricken people are a group of persons with a need. Abell (1969) addressed the way in which food services could assist social groups. Amongst the worlds poorest are women, a theme dealt with by Marjorie East (1975). The poorest of the poor are elderly women. Singer and Ashton (1965) told how retirement planning could help these persons. Bryce (1960) specialized in assisting the handicapped homemaker.

Advocacy The second issue of *CHEJ* included a report of a Manitoba home economists submission of a brief to the Winnipeg Milk Board (Peterson 1951). The editor (1967) explained the Dial-a-Dietitian program first established in Halifax. The next year (Editor 1968) Ontario had a consumer program entitled Dial-a-Menu.

The environment Some social concerns relate to the environment. Doris Anderson (1970) called attention to the problems of food pollution. Armstrong (1973) wrote about mercury pollution in Canada. Bentley (1975) thought population was the ultimate pollutant.

Technology

Food To counteract the rapid increase in population, food technologists have searched for new sources of protein. Mueller and Walder dealt (1970) with the use of natural gas. Owens (1969) reported more generally on the future of food and Nesbitt (1962) on food technology.

A concern for nuclear technology has become a political issue. Bird (1967) wrote on radioactivity in foods.

Equipment developments are a form of technology and the "What's New" and "Happenings" columns which have been regular features under these or other titles since 1958 have updated home economists on technological developments in food and equipment. Kennedy (1952) told of experiments being conducted at the University of British Columbia using new frozen food equipment. Shields (1956) described temperature controls for ranges.

Communication Technology Home economists, dietitians, and nutritionists have used media to transmit their messages. Middleton (1953), Scholtes (1960), and Fewster (1968) spoke specifically about the use of television. Carscallen (1961) relied upon radio.

Publications are also a form of media. Henry (1966) described the production of the *Laura Secord Canadian Cook Book*, a fund raising project of the Canadian Home Economics Association. Piper (1961) had a two part paper on food photography.

Government In 1952 a column entitled "News from the Nation's Capital" was introduced and ran until March 1963. Although mainly news items about home economists working in Ottawa, there were short items about research. Some government research has been mentioned earlier in this paper. Other examples are the Pett and Sackville (1953) article on storage tests, and the Nutrition Division (1954) article on chocolate drink and chocolate milk.

Conference speakers Many papers already mentioned, dealt with research that was presented at conferences. In 1952 two researchers who spoke at the 1952 CHEA convention in Saskatoon were published. Spinks (1952), who later became president of the University of Saskatchewan, addressed the topic of tagged nutrients and Haslam (1952), who later became vice president at the same institution, explained research with the betatron.

Home Economics Research

From time to time food and nutrition research was reported. Examples include Weir (1959) on meat palatability; McIntosh et al (1960) on reducing programs; and Gullet et al (1968) on egg white foam.

Hawkins (1961) article was reprinted from the *Journal of Home Economics*. She urged that more research be done by home economists and that more research be reported in the journals. In 1973, a headline proclaimed "Refereed research to start in June 1973." In the next issue the refereed section was explained, the editor, Dr. Anne Kernaleguen was introduced, and a guide for authors was included. Kernaleguen (1973) published the first refereed section in the July issue 1973. It comprised 13 abstracts of research in Canadian universities. Six of the abstracts related to food and nutrition. McFayden and Stiles (1973) paper on egg quality was the first complete refereed paper to be published by *CHEJ*. Stiles et al (1975), reported survey research on pork.

Papers encouraging more home economists to undertake graduate study and enter the field of research were published by Feniak and Engberg (1960) and Black (1967). Hiltz (1965) reported 63 researchers in food and nutrition at the University of Toronto. In nutrition only, there were 23 at McGill, 12 at Université de Montreal, and 8 in Manitoba. Bannerman (1970) told the story of the Calgary home economists fight to have research and teaching at the University of Calgary. Feniak (1955) explained how the white rat could be used to teach university students.

Change

Philosophy Most thoughts about change have come from those home economists who have been deans and directors. Edith Rowles Simpson, from Saskatchewan, related change to the adequacy of university programs (1958); to the discipline (1962); to the history (1966); to the role of a home economist (1966); and to the life of the individual (1973). Todhunter (1960), from the USA, mentioned the relation of technology and science and the role of women in these areas. Neilsen (1963) from Macdonald College, McGill, brought consumer education to the fore for the home economist and dietitian. Lloyd, from Manitoba, described the rationale (1968) and the direction (1969). Wardlaw, from Guelph (1971) pointed thinking to the future meaning of home economics. The educational background for all of these deans included some food or nutrition courses.

Education. University educators described changes in programs: Rutter (1951) in Saskatchewan; Moxon (1952), the preparation of home economists in business (HEIB) at Manitoba; Allan (1960), research at Manitoba at the graduate level with Rita Campbell as the first to complete the program; Ciruna et al (1968), the requirements for Ontario home economics teachers; and Brown (1972), the cognitive level of first year foods courses. Manoff (1974) questioned "You're teaching nutrition, but are they learning?"

The elementary and secondary level were not forgotten. Hazel Hatcher (1960) conducted a curriculum workshop in New Brunswick. Jenkinson (1961) thought home economics programs were not realistic since more people were eating out and adopting fads. Nutrition should be started earlier to be available to dropouts. Macfarlane (1966) found that food preparation and composition were the main concepts in a survey of home economics programs in Canada.

A series on careers was run in the 1950 journals. Griggs (1953) reported on HEIBs in the promotion field. Clarke (1954) explained food services in the RCAF. Archibald (1954) described the work of the public health nutritionist. Dr. Hope Hunt (1955) considered university teaching. Thomas (1956) described her experiences as a dietitian in a private clinic. Dr. Barbara McLaren (1956) proposed research. Campbell (1957) was familiar with management of a restaurant.

> "We are so busy with present problems that we do not take enough time to think about the future". (Baker 1968, p.3).

Cooperation Throughout the twenty five year period there were indications that home economists valued cooperation. Johns (1955) observed that nurses and home economists shared the goals: to protect, to nourish, and to nurse. Giovanetti (1957) described cooperation with other health professionals at a tuberculosis hospital. Irvine (1959) described the university reserve training plan for dietitians.

Neilsen (1961) identified the role of the Canadian Dietetic Association. Throughout the journals consultations, advertising of conventions, joint conventions, reprints of articles, and convention reports were shared.

The Canadian Council on Nutrition had representatives from CHEA who reported on activities and assisted on committees and with projects. Macbeth (1963) reported on the sixth congress of nutrition. Young (1969) reported on the eleventh International Federation for Home Economics congress which chose the theme "Home economics at the service of international cooperation".

Industry was not forgotten as Mackinnon (1970) planned a joint appeal for fund raising. Laura Secord Company did assist with the development of the *Laura Secord Canadian Cookbook*.

Abstracts of Current Literature

A column entitled "Abstracts of Current Literature" first appeared in September 1961, although individual abstracts had appeared before that. The column appeared in almost every issue until December 1975, the concluding issue for this study. The abstracts were prepared by faculty members in Canadian universities in rotation. Five reviews in diverse areas were expected. Some abstracts appeared in French in support of the policy in effect from 1964 to 1970 to encourage the use of French in *CHEJ*.

Statistics In total there were 299 abstracts published between 1950 and 1975. Of these 136 (45.48%) were in the food and nutrition area. the remaining 163 (54.52%) were in all other areas of home economics.

Journals Abstracted Research papers from forty-two different journals provided the abstracts used. The highest ranking journal was *American Journal of Clinical Nutrition* which appeared 16 times. *Food Technology* and *Journal of the American Dietetic Association* were selected ten times each. The *Journal of Food Science* and *Journal of Home Economics* each were chosen six times. *Journal of Nutrition* was abstracted by four faculty. Canadian journals, *Canadian Institute of Food Science and Technology* and *Hospital* were used three times each.

These frequencies support the findings of Goldsmith et al (1988) who surveyed deans and department heads to find which American home economics journals were of highest quality. The rankings of the above journals were in the same order, except for the *Journal of Nutrition* which ranked second.

Book Reviews

A column of book reviews commenced in 1952. The editor of this column found members in her geographic area with appropriate expertise to review the books. Consequently most of the books were reviewed by members in Manitoba, Ontario, or Alberta during the period from 1950 to 1975.

Statistics There were a total of 259 books reviewed. Of these 144 (55.6%) related to food and nutrition. Books about other areas of home economics were reviewed at the rate of 115 (44.4%). Of the food and nutrition books 48 (18.53% of the total number of books) were cookbooks. What does this do to the image?

Topics of Books Reviewed The most frequent topic for book reviews between 1950 and 1975 were cookbooks (48, 18.53%). The cookbook topics included ethnic (18), general (10), efficiency (8), a VIP author (5), ecology (3), entertaining (3), and allergy (1).

Next were textbooks about food (20), for use either in high school or university. Many of these were about food preparation and these, plus the cookbooks pushed up the topic food preparation to that most frequent in the concepts.

Nutrition (19) and nutrition education (10) were next most frequent topics. The most frequent individual nutrition problem was obesity (6). However there were also books about diabetes, general health, and food value. Toward the end of the period books about social issues such as world food, community nutrition, and gerontology were beginning to be reviewed.

"There are few hobbies more satisfying than the gradual collection of great books". (unknown, 21, 1 January, p. 36).

Other Reviews

Films, filmstrips, pamphlets, and kits were reviewed from time to time. In the early 1960s such reviews appeared in a column "From the Mailbag". In 1968 these reviews appeared along with those for books. The information about films, filmstrips, and pamphlets came from government departments which had developed the media or from advertisers.

Conclusion

From the frequency of occurrence food and nutrition topics have been important in the *CHEJ*. The number of cookbooks reviewed and the stress on food products in some of the special columns might support the "cooking" image. A review of the authors and editors indicates that specialists in food and nutrition have given good support to *CHEJ*. ☐

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Home Economics:
A Personal Definition and Philosophy

Suzanne McClung

Abstract

Home economists must have a working personal philosophy in order to justify their actions as professionals. A definition of the profession's focus and goals is vital to understanding one's function within the profession. In this paper, a personal definition of home economics will be developed. The history of the profession, the identification of a mission, the difference between an integrationist and a specialist perspective and the implications for a female-dominated profession will all be examined in developing this definition. The paper will then use this definition to describe clothing and textiles and its relationship to home economics. Finally, the effects of the definition on the professional practice of textile science will be described.

Résumé

Les spécialistes de l'économie familiale doivent posséder une philosophie du travail personnelle pour justifier leurs actes professionnels. Il est essentiel d'avoir une définition de l'orientation et des buts de la profession pour comprendre ses fonctions respectives dans le domaine. Cet article suggère une définition personnelle de l'économie familiale. Pour ce faire, on y examine l'historique de la profession, l'identification d'une mission, la différence entre une perspective intégrationniste et une vision spécialiste ainsi que les implications pour un domaine dominé par les femmes. Nous utilisons par la suite cette définition pour décrire les vêtements et textiles et leurs relations avec l'économie familiale. Pour terminer, l'article décrit les effets de la définition sur la pratique professionnelle des sciences du textile.

Knowledge of the home economics profession's history helps one to understand the context within which the profession has come to be understood. The ideas on which the profession was originally founded can help the individual to identify where the profession is at and how it got there. An understanding of the past allows for consistent behaviour, because one is aware of what is and is not a part of the profession. Early home economists saw their mission as providing the education needed "to create a home life that would both enhance individual development and contribute to a more democratic society." (Brown, p. 48) Home economists today are concerned with education designed to improve home life and it is a very important aspect of the profession. Obviously, this function of the profession has roots in history. Ellen Richards, an early home economist, saw the field of home economics as one which used science to reform the ills of society. (Vincenti, p. 27) This knowledge helps the home economist of today to see how the use of scientific principles has become so widespread in the profession.

Historical knowledge helps the home economist to have an understanding of where the profession is at. As well, historical knowledge allows the individual to better understand criticism and to more readily respond to it. Brown (1984) is adamant that many of our problems stem from "clinging" to various concepts which were popular at the time of the Lake Placid conferences, the time of the profession's inception. She criticizes home economists for continually having a low opinion of human nature, concerning themselves with things rather than people and adulating empirical science and technology. (Brown, pp. 51-53) To understand the roots of these criticisms, one must understand the prevailing ideas at the time of the Lake Placid conferences. People at this time were obsessed with

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upward mobility and modernization. The idea that the lower classes had an inferior quality of life stemmed from this obsession and thus a superior attitude towards others prevailed. The obsession with modernization explains the use of science and technology and the viewing of the home in terms of things instead of people.

Historical knowledge helps the professional to define where the profession is at and also helps him/her to respond to criticism. In order to develop a working philosophy for professional practice and in order for a professional to be taken seriously as an intelligent individual, the history of the profession should be understood and interpreted by each individual in the profession.

Home Economics: A Common Mission

The mission of home economics, having been stated in many forms, can basically be stated as "to improve the quality of life for families and their individual members." (Vincenti, p. 26) Interpretation of this statement will describe completely a personal philosophy of home economics. To interpret the statement, an individual must define the concepts of home and family and also define the improvement of quality of life.

To understand the focus of home economics on home and family, one must define each of these concepts. East (1980) does this very well. She defines the family as "a group of people who care about each other . . . [and] are related by genetic, affectionate or legal ties." (East, p. 165) She defines the home as "a place, a locale, . . a shelter from the elements . . . a dwelling, a place where one lives." (East, p. 164) Home and family are related because families often live in homes. Each concept and their inter-relationship is very complex as both family and home take on a multitude of forms. (East, p. 166) Because of this complexity, it is vital that a profession exist which focuses on home and family. The profession of home economics can provide resources "to enable families to function in their own strength." (Green, p. 40) It can focus on the many problems of families in daily living in order that families can learn to better help themselves.

In focusing on home and family, certain precautions must be taken. Families and homes take many forms and so broad definitions must be used in order to provide help to the greatest number of people. Traditional definitions and stereotypes will limit the scope of professional practice. North Americans tend to sanctify the concepts of home and family. If we are to be taken seriously as a profession, we can not rely on cliches such as "The family is the cornerstone of the country." (East, p. 164) In order to include all members of the family, we must avoid the use of sex-role stereotypes and consider all work of the home important regardless of who carries it out.

Improvement of the quality of life carries with it many implications. It implies that families do not have optimum quality in their lives and that home economists have all the knowledge to rectify the situation. Sensitivity to the morals and norms of others is very important in the application of this concept. Professionals must be careful not to force "the right answer" on families, but instead to provide them with the resources to find their own right answer. Quality of life is a very subjective issue; professionals cannot hope to provide all the answers. Instead of providing the answers, professionals should use a preventive, educational, developmental framework which provides resources for the family to help itself. This will work much better than a framework which concentrates on therapy and crisis intervention. (Green, p. 40)

Home Economics: An Integrative Viewpoint

An integrative viewpoint is vital to the mission of home economics. The general trend in academia and in society is towards specialization. It is seen as important for individuals to be experts at what they do. Home economics has often been criticized for conforming to existing society and if we continue to specialize in this way just because everyone else is, we will not be working towards our common goal as a profession. By specializing, we compartmentalize the problems of daily life which do not come in compartments. (Brown, p. 53) Attacking family problems requires the integration of knowledge from various areas in order to provide the necessary resources. A narrow focus is convenient for research and grading within academia, but it is splitting up the home economics profession. (Belck, p. 8) Specialists find that they are not really a part of home economics and do not want to call themselves home economists. This is because they are not home economists. By specializing, they are no longer concerned primarily with the practical problems of families. Instead, they are indirectly concerned with family as it affects their work, not with how their work affects family. The importance of a general education cannot be stressed enough. While it is important that home economists be experts at what they do, it is also important that home economists be able to integrate information across several disciplines in order to be experts. (Belck, p. 9) A breadth of knowledge is needed to understand and help the family. Home economists must practice what is appropriate; the larger mission of home economics must be congruent with all our endeavours. (MacCleave-Frazier and Murray, p. 69) It should be obvious what our work has to do with the larger mission; we should not have to spend a lot of precious time questioning where it fits in. Specialization forces us off on narrow paths which lead us away from the larger mission and serve to fracture the profession as a whole.

Home Economics: A Female-Dominated Profession

Home economics has traditionally been a female-dominated profession. Some feminists, in their zealousness to attain equality, label all traditionally female occupations as "unworthy." (Thompson, p. 6) Unfortunately, this label is created by the male-defined world which feminists oppose so vehemently. A world of true equality will be one in which people of both sexes will be able to choose freely what occupation to pursue without being labelled. Home economists have for the most part focussed on the stereotypical problem of women within families rather than the problems of people within families. Home economists must be feminists. They must give families the resources which allow for equality of the sexes. We have a long way to go towards equality of the sexes. Home economists make the improvement of the quality of life their main goal. Equality which allows individuals to make free choices about their lives would be such an improvement. People should not be forced into a role they do not want simply because others think it is right for them.

Home Economics: A Summary

A home economist is a person who is concerned with the improvement of the quality of life for families and in the home. She/he has an understanding of the history of the profession which helps to describe where the profession is at today and allows better understanding of and response to criticism. In focusing on the improvement of quality of life, a home economist uses an educational, preventive framework and is careful to respect the norms and morals of others. An integrationist perspective is best for the provision of resources to families who are dealing with problems in the real world. Being committed to the improvement of the quality of life, a home economist is a feminist who believes in freedom and equality for all individuals.

Clothing and Textiles and Textile Scientists in Home Economics

Having been trained under the auspices of home economics, a clothing and textiles major must consider the definition of home economics and what implications it has for his/her field. Horn (1981) best describes the problem with doing this. She thinks that clothing and textiles majors spend too much time trying to convince themselves that they are primarily concerned with the problems of homes and families, when in fact they are not. (Horn, p. 20) Many areas within clothing and textiles can be seen as appropriate to the mission of home economics: designing clothing for special needs, helping people to understand their clothing behaviour as contributing to mass conformity, identifying the role of clothing in the development of self-concept and understanding the economics of clothing as part of the whole production/consumption cycle. (Horn, p. 21) Other concerns in clothing and textiles which can be seen as appropriate to the larger mission of home economics are the development of flammability standards for household textile products and children's sleepwear, the development of consumer resources on fiber performance in various end uses and the design of protective clothing for specialized use.

The field of textile science has the potential to be loyal to the mission of home economics. Textile scientists can take their in-depth knowledge of textiles and combine it with a knowledge of problems of families as consumers. This has been done in many areas of consumer textiles such as flammability legislation, household textile consumer information and textile analysis to determine origin and blame of consumer textile problems. However, textile scientists are also scientists. The areas of geotextiles, dye chemistry and fiber microscopy have significant ramifications for the scientific community and little relationship to the problems of families. Ultimately, textile science needs to be an area which home economists use in consumer education and in working for improvements in consumer textile products. Specialists in textile science, however, must ultimately be recognized as scientists. While the work of textile scientists can be used to address the problems of homes and families, textile scientists are not primarily concerned with these problems. Textile scientists are concerned with the problems of textiles and the improvement of textile products. "The fundamentals of heat transfer, dyeability, color, drape, strength and stiffness, all important properties of textile materials, require an understanding of basic physical laws. Courses in both physics and chemistry provide this necessary background." (Schwartz, p. 3) Textile science is a science, a specialization which has a narrow focus, detrimental to the larger focus of home economics.

Textile scientists are specialists who cannot be considered home economists, but at present, they are trained through home economics. The philosophy of a home economics training cannot help but have an impact on the professional practice of textile science. Having been trained in home economics, textile scientists learn the importance of understanding the effects of one's work on people and families. Training in home economics also teaches the individual to strive for quality of life and to have an appreciation for the needs of equality and freedom for all people. The preventive, developmental nature of home economics teaches the individual to avoid being caught up in "treating the symptoms" and instead to attack problems at the root. Home economics has a central philosophy which is useful to any individual. The practice of home economics, however, must be limited to those professionals who take an integrationist viewpoint and directly concern themselves with the problems of families. ☐

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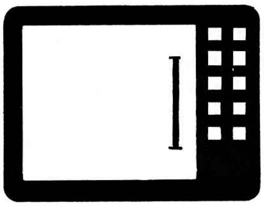

Microwaveability: The New Wave in Convenience Foods Packaging

Judith D. Fraser, BScHEc, PDt and Eileen L. LeBlanc, PDt, PhD

Abstract

Microwave ovens have presently infiltrated 43% of Canadian households and are fast becoming common convenience appliances. As a result, consumers are demanding more and better microwaveable products. Microwave product development poses a challenge to the food industry because of an interdependency between the food's composition and its packaging. Food packaging companies have responded to the need for improved packaging by making available a wider variety of dual-ovenable products and by developing materials strictly for microwave usage. However, adoption of innovative packaging technology such as susceptors and field intensification which maximize microwave energy's potential has been slow. It is therefore of interest to review the problems inherent to microwave reconstitution and assess possible solutions from a packaging perspective.

Résumé

Les fours à micro-ondes se sont infiltrés dans 43 % des foyers canadiens et s'avèrent de plus en plus des appareils ménagers pratiques et populaires. Résultat: les consommateurs exigent une quantité accrue et une qualité supérieure des produits pour fours micro-ondes. La mise au point de tels produits pose un défi à l'industrie alimentaire en raison de l'interdépendance entre la composition des aliments et leur conditionnement. Les compagnies de conditionnement d'aliments ont répondu au besoin d'un emballage amélioré en offrant une plus grande variété de produits adaptables à deux types de fours et en mettant au point des matériaux réservés à l'usage aux micro-ondes. Cependant, l'adoption d'une technologie de conditionnement innovatrice tel les suscepteurs de l'intensification inductrice maximisant le potentiel énergétique des micro-ondes a été lente. Il est ainsi intéressant de revoir les problèmes relatifs à la reconstitution des micro-ondes et d'évaluer les solutions possibles de la perspective du conditionnement.

Changing lifestyles have rapidly reshaped Canadian and American eating habits. Increased numbers of working women, two-income families, a smaller traditional family size (Swientek, 1987), and a high number of single-person households (Rubbright, 1986) have made foods which feature convenience and minimal preparation time increasingly popular (Swientek, 1987). In addition, traditional meal patterns have shifted to a series of mini-meals spread throughout the day. With this tendency towards "grazing" and high emphasis on convenience, consumers have become more reliant on the microwave oven for cooking processes (Messenger, 1987; Salvage, 1987). As a result, prepared and microwaveable foods have captured a significant portion of the Canadian food budget (Robbins & Zafiriou, 1987). Current statistics report microwave ovens in 43% of all Canadian households (Canadian Standards Association, 1988). By 1990, these figures are expected to rise to 50% in Canada (Davey, 1987) compared with an 80% infiltration in United States households (Messenger, 1986). The availability of smaller, subcompact microwave ovens at affordable prices (Rothenberger, 1987) has appeal to Canada's aging population and single-person households. Consequently, microwaveable product development should not be limited to premium-priced products (Sheridan, 1987). Market-driven demand for new, improved microwaveable products (Pehanich, 1987; Messenger, 1987) has challenged research and development teams of home economists, food technologists, packaging specialists, and electrical engineers to formulate convenient foods of high quality, good nutritional value, flavor, and textural attributes comparable to conventionally cooked (Curran, 1987).

Food companies have tried to provide microwave cooking directions for a conventional product but consumers have not found "microwaveable" on the label adequate (Schiffman, 1982; Messenger, 1987). Investigation of ways to repackage traditional products in microwaveable containers has led to use of dual-ovenable containers many of which also have resulted in some degree of consumer dissatisfaction (Curran, 1987; Drennan, 1987). Because the microwave oven is a radically

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different cooking appliance compared to the conventional oven, the risk of compromising the quality of a product to suit the joint requirements of both oven types has been high (Anon, 1987; Rice, 1987b). Despite this finding, many food processors have continued to produce dual-ovenable products for the 57% of the population who do not own microwave appliances (Anon., 1987) even though the market segment that purchases convenience dinners and entrees have generally been microwave owners (Rice, 1988c). In addition, dual-ovenable packaging has incurred greater costs to the food processor (Rice, 1987b). The unanswered question is whether it is preferable to develop and market dual-ovenable products or to produce two separate product lines — one for conventional reconstitution, the other designed specifically for the microwave oven. Decisions depend on the product, its usage, and the consumer market segment (Rice, 1987b).

Research by food scientists has shown that microwave product formulation is difficult because of an interdependency between the food's composition and its packaging (Schiffman, 1985). From a technological point of view, the product developed should utilize both the microwave radiation and the properties of the food at this frequency (Curran, 1987; Keefer, 1986). These facts substantiate simultaneous design of the food system and its packaging for optimum performance in microwave preparation (Rothenberger, 1987). Microwave specialists (Huang, 1987; Schiffman, 1982) have reported that food processors must understand the microwave oven, the interaction of microwaves with food components, and the problems related to packaging material.

Problems Related to the Microwave Oven

Despite accelerated microwave product development by the food industry, microwave appliance manufacturers have stagnated in meeting consumer demands because both parties have not interacted to foster benefits for the end user (Messenger, 1987). As a result, various problems have become evident. One such problem for the food processor, when designing cooking instructions for individual products (Anon., 1987; Schiffman, 1982), is the lack of standardization of nomenclature and power levels among different microwave models. Different manufacturers still use different words to describe power levels with little or no relationship in terms from one manufacturer to another. As well, many different models remain available under the same brand name each featuring varying power levels and ranges of power output.

In addition, each individual microwave oven has its own non-uniform electromagnetic field pattern (Schiffman, 1982) that results in "hot" and "cold" spots or uneven heat distribution within a food product. Huang (1987) found this problem especially evident in the increasingly popular smaller-cavity, subcompact ovens. To date, temperature equilibration can be somewhat controlled by field stirrers, turntables, or similar type devices but remains a problem because of limited heat distribution by convection and conduction (Best, 1987).

As well, excessive heating rates during microwave reconstitution at high power levels permits the internal temperature of a product to increase until the material is destroyed (Schiffman, 1985). Consequently, the food technologist has to develop products which can be reconstituted quickly at a high power level without compromising quality (Schiffman, 1982).

Problems Related to the Interaction of Microwaves with Food Components

Microwaves are a form of energy which convert into heat due to molecular friction when they interact with a material (Schiffman, 1985). Time-dependent ingredient reactions that occur during conventional cooking may not occur during the short period of microwave reconstitution (Best, 1987). Thus, the moisture, sugar, fat, and salt content of a food, its mass, density, geometry, initial cooking temperature, thermal conductivity, and specific heat as well as the packaging or cookware and cooking process must be considered in optimizing the formulation and cooking process (Bohrer, 1987; Taki, 1984) to prevent 1) lack of crisping and browning, 2) uneven heat distribution, and 3) compromised flavor development (Fraser & LeBlanc, 1988).

Problems Related to the Packaging Material

Microwave packaging options cover a broad range (Rice, 1987b; Sheridan, 1987). Most microwaveable foods have been packaged in "passive" or microwave transparent material that do not affect the microwave modes (Drennan, 1987). However, metal containers recently have been specifically designed for microwave use (Rice, 1987b). Lingle (1987) reported that food processors are beginning to understand that custom-designed packages can interact advantageously with the microwave energy and the food system during reconstitution (Best, 1987). Rothenberger (1987) found that good packaging design fosters quality products with microwave convenience (Drennan, 1987). Competition among packaging suppliers has increased because of the food industry's introduction of more microwaveable, dual-ovenable, and line extensions of products (Rice, 1986a). Each individual packaging system has functional qualities which make it best-suited for a particular application (Rice, 1986a) and to the market segment for which it is positioned (Rice, 1987b; Sheridan, 1987).

Microwaveable Plastics

Despite the wide variety of thermoplastic materials available, those strictly designed for microwave use only, have not been extensively employed regardless of the cost advantages to the food processor. The Society of the Plastics Industry of Canada (1988) has recognized that each type must be evaluated and tested to ensure safety. As well, manufacturers must conform to The Canadian Food & Drugs Act & Regulations (1982) which states "No person shall sell any food in a package that may yield to its contents any substance that may be injurious to the health of a consumer of the food". Plastic packaging requires high temperature stability coincident with the food's reconstitution temperature and rigidity for handling so that no spillage or deformation occurs on removal from an overhead built-in appliance. This has been of special concern for high fat or sugar containing foods that may heat above the melting point of the container (Sheridan, 1987).

To date, expanded poly-styrene packaging has been very compatible and economical in microwave heating a variety of products (Rice, 1987b). However, Sheridan (1987) found it became flexible and melted under elevated temperatures created by steam from the foodstuff. Recently expanded poly-styrene has been modified to have a higher heat stability but its use is still limited to reheating applications (Rice, 1988a).

Plastics also must be evaluated for stability during chilled or frozen food storage. Another consideration has been food/package interaction re: taste, reconstitution, and staining. All plastic containers have not been designed to be dual-ovenable and the consumer must be made aware of this (Sheridan, 1987). Dual-ovenable plastics are generally of two types: 1) heat tolerant plastic trays and 2) paperboard/fibreboard trays.

Crystallized polyester (CPET) has been used to manufacture heat tolerant plastic trays because of the resin's melting point of 485°F (250°C) which makes it safe for use at 375°F-425°F (190°C-220°C) (Morris, 1986a). As well, CPET withstands freezer temperatures of -40°F (-40°C) and remains resistant to transmission of stains, oil, moisture, and off-flavors or odors during either processing or reconstitution. A wide variety of aesthetically appealing colors are available thereby increasing the reuse of the container (Sheridan, 1987). Food processors have reported that CPET projects an image of convenience and quality that permits targeting products to a specific consumer segment who are willing to pay a higher cost (Morris, 1986a). At present, CPET is available for frozen food application; a dual-ovenable retortable container with an extended shelf-life and potential for irradiation processing is in the development stages (Rice, 1986b).

Campbell Soup Co., Camden, NJ has recently converted its entire line of Swanson frozen dinners from foil to CPET packaging (Rice, 1986a). Their U.S. consumer market test (Morris, 1986a) indicated that consumers perceived foods packaged in CPET to be of superior quality compared to the alternative molded fibre polyester laminated tray (Rice, 1986a). Duthie (1986) reported that microwaveable products have fostered and maintained Campbell Soup's food industry leadership. Their Hungry-Man line of frozen dinners has been repackaged in the molded fibre polyester laminate because no significant consumer preference was found between the packaging types and a significant price advantage for the product was possible. Optimum eating quality was ensured by either altering ingredients or dinner components based on the results for consumer frozen dinner food preferences. Swanson pot pies have remained the only Swanson brand item packaged in aluminum foil in the United States (Rice, 1987a) whereas in Canada, the Swanson frozen dinner line has been converted to microwaveable packaging.

The General Electric Company (GE), Norcross, GA has produced a number of resins which can be used in the manufacture of superior impact resistant dual-ovenable trays with good aesthetic appeal. These properties command a high price and are best-suited for premium-priced entrees and other value-added foods (Morris, 1986a). Stouffer Food's Corp., Solon, OH recently converted its Lean Cuisine product line from aluminium to a new dual-ovenable GE 'Dualon'® in response to an increased consumer demand for microwaveable frozen entrees. Stouffer's specifications required a convenient tray design that was complimentary to the quality of the food, a temperature stability range between -40°F-450°F (-40°C-230°C) and an anti-stick surface. This 'Dualon'® packaging is 20-30% more expensive than CPET (Rice, 1987c). In Canada, the majority of Stouffer regular frozen dinners and the Lean Cuisine product line are packaged in 'Dualon'® trays.

Glass Packaging

Glass packaging has been promoted for a variety of microwave applications by a number of food processors because of its convenience to the consumer (Rice, 1986c). Generally, microwaveable glass-packed products contain a metal twist-off closure which the consumer simply removes prior to the microwave cooking process and the heated product is then consumed directly from the jar (Rice, 1987b). Although glass packaging will never be unbreakable, research on coatings, tempering, and crystallization for production of glass containers that are strong, resistant to breakage, and light in weight continues. Other positive features of glass microwaveable packaging include the high product visibility, tamper-evidence, recloseability for maintaining freshness of unused portions, and general reuseability. Glass packaging offers a cost advantage, can be molded into almost any shape, tinted in practically any color, and is easily stackable on store shelves. As well, it has the potential for either retort or irradiation applications (Rice, 1986c).

Susceptor Technology

Rosenkrantz & Higgins (1987) and Rothenberger (1987) have reviewed the use of microwave susceptor technology for products which can selectively absorb and convert microwave energy into heat. Particles of metal, generally aluminum, are applied in a particular density to a heat-resistant surface such as a polyester film (Lingle, 1987). These susceptor films are laminated onto a variety of packaging materials such as paperboard trays (Rice, 1987b) and in the presence of microwave energy, create a hot-plate effect which results in crisping and browning of the adjacent food surface (Anon., 1986b; Lingle, 1987) in meat entrees, breaded products, and baked goods (Morris, 1986b; Rothenberger, 1987). Huang (1987) found that the heating rate and temperature for the product can be controlled by adjusting the thickness of the susceptor layer. A thick layer of susceptor film gives a faster absorption rate. By varying the compartment thickness of the susceptor layers for multicomponent foods, each item can be reconstituted to optimum doneness.

Presently, the majority of susceptors are aluminum. Lingle (1987) reported that a surface temperature of 500°F (260°C) could be achieved in a matter of seconds. However, the temperature of the aluminum continued to increase and had the potential to scorch or cause an oven fire (Rice, 1987b; Rosenkrantz & Higgins, 1987). Other metals that can give both improved temperature control and consistent heating over a specific temperature range are being tested (Rice, 1987b). Ideally, after thawing a frozen product, a susceptor should instantly heat to the cooking temperature and remain at that temperature for the duration of the cooking cycle (Lingle, 1987).

Susceptors have been used commercially since 1975 (Lingle, 1987). Pillsbury's Microwave Frozen Pizza is packaged in an aluminum susceptor paperboard tray that transfers heat to the pizza and crisps the crust. The single-use tray requires no preheating and cools within seconds after removal from the oven (Messenger, 1986; Przybla, 1985). Assessment of Pillsbury's Microwave Frozen Pizza showed crispness but not comparable to that prepared conventionally.

Field Intensification

Field intensification devices redistribute and amplify the microwave field because of the reflective properties of metals (Morris, 1986b; Rosenkrantz & Higgins, 1987). Alcan Packaged Foil and Containers Limited, Toronto, ON have employed this principle in the design of their cost competitive, aesthetically appealing 'Micro Match'® microwaveable packaging line (Anon., 1986a; Drennan, 1987).

'Micro Match'® packaging has a special plastic lid with strategically placed aluminum that modifies the microwave field (Morris, 1986b). Such a lid can be used with containers of almost any microwaveable material but it is best suited for a foil container (Anon., 1986a). It can be custom-designed to suit the particular food product (Drennan, 1987) and allows manufacturers to selectively engineer heat levels for individual foods (Anon., 1986a). Lingle (1987) found that its use eliminates hot and cold spots. Individual components of a compartmented dinner cook to desired doneness by appropriate use of the microwave field pattern. The system's uniform microwave heat distribution has shown cooking qualities comparable with, or superior to conventional ovens (Anon., 1986a). The metallic element in the lid facilitates browning and crisping concomitant with cooking of the interior to the appropriate temperature (Drennan, 1987). Selective steam venting is possible as well as system designs to prevent all cooking (Anon., 1986a). An example of this is reconstitution of a compartment dinner consisting of meat with gravy, potato, vegetable, and a dessert pudding so that all individual components have been heated to their desired degree (Drennan, 1987). Conversely, removal of the special lid makes 'Micro Match'® dual-ovenable.

Although this technology has been available for several years, it has only begun to filter into the marketplace (Lingle, 1987). Rice (1986a) suggested its application was hindered because of the consumer's perception that foods packaged in aluminum foil are incompatible with microwave reconstitution. In fact, to alleviate such negative consumer response, aluminum trays have been coated in a beige color to closely resemble plastic trays. Other applications for this concept include frozen foods that require crisp or brown outer surfaces viz., complete meals, pizzas, and a variety of baked goods (Anon., 1986a), extended shelf life retort packaging systems (Lingle, 1987), and permanent microwave cookware (Anon., 1986a).

Future Trends

As the food processing and packaging industries continue their research and development activities, new microwaveable packaging concepts emerge. Two new food product categories recently introduced are shelf stable entrees and refrigerated microwaveable entrees. Recent market tests by the Campbell Soup Co., Camden, NJ and the Geo. A. Hormel Co., Austin, MN have indicated positive consumer response to the high quality, shelf stable, microwaveable entrees (Rice, 1988c). Cost advantages and superior consumer convenience in storage, portability, and preparation (Andres, 1987; Salvage & Mans, 1987) have made them popular at the expense of frozen food items. Retorted plastic containers also appeal to food retailers as they are lightweight, unbreakable, and need not be stored or displayed in refrigerators or freezers (Rice, 1988c). It is of interest that these products have placed the supermarket in competition with takeout and away-from-home food dollars. Swientek (1988) also found that consumers perceived precooked refrigerated items as fresher, more nutritious than fast foods, more convenient than frozen products, and available for purchase during normal supermarket shopping time.

A 'cook-in' the package microwave bacon with a fibre pad designed specifically to withstand the high temperatures of microwave reconstitution has recently been introduced by The George A. Hormel Company, Austin, MN. The pad selectively absorbs grease and oil during cooking, eliminates clean-up, and produces a product of superior crispness when compared to other microwaved bacon products. Ultimately, the consumer simply removes the bacon and disposes of the package (Rice, 1988d).

Other advances in packaging include doneness indicators and self-venting systems. Doneness indicators visually show optimal doneness by a heat and time sensitive color change custom-designed for the individual food application. Curran (1987) and Lingle (1987) reported that this technology compensates for variability in microwave power level, wattage, food product temperatures of multi-component foods, and clarity of product preparation instructions. ConAgra Consumer Frozen Food Co., St. Louis, MI incorporated this technology into its frozen dinner line for both optimum reconstitution and eating quality (Rice, 1988b). In addition, pressure sensitive self-venting package systems have been custom-designed for specific food products to control steam releases during microwave heating (Lingle, 1987).

In this era of microwaveability, both food and packaging industries face new challenges. Despite many advances, a tremendous product development opportunity exists for maximum use of microwave energy. The food industry has been swayed by consumer demand for more microwaveable products. Dual-ovenable packaging, used by the majority of food processors despite its less than superior quality, often yields consumer disappointment on its purchase. As is true for many areas of the food industry, response to innovative packaging for the microwave has been slow. Nevertheless, two exciting developments for improved food quality are susceptor and field intensification packaging technologies.

With increased household and institutional microwave infiltration, the food industry has demands for more variety and sophistication in microwaveable products. Technological advances will continue as the consumer-oriented, market-driven food and packaging industries compete to deliver a greater variety of superior quality microwaveable food products. Consumers and professionals will benefit from energy and time savings as improved selection and quality of convenience products occurs. ☐

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A Model to Facilitate Involvement of Home Economists in Public Policy

Sue L. McGregor

Abstract

The potential to influence day-to-day political decisions is directly related to a home economist's knowledge, skill, and ability as a political participant. Although home economists believe they should be politically involved, there is a gap between their attitude and their actual behavior, because they feel they are inadequately prepared to get politically involved. This paper presents a model designed to facilitate the involvement of home economists in public policy. The model portrays a political participation hierarchy that serves as a conceptual framework capable of instigating a home economics initiative in public policy development.

Résumé

Le pouvoir d'influence sur les décisions politiques quotidiennes est directement relié aux connaissances, compétences et aptitudes d'un spécialiste en économie familiale en tant que participant politique. Bien que ces professionnels croient qu'ils devraient participer aux politiques, il existe un écart entre leur attitude et leur comportement étant donné qu'ils se sentent inadéquatement préparés pour s'engager politiquement. Cet article présente un modèle conçu pour faciliter l'implication des spécialistes en économie familiale dans les politiques publiques. Le modèle affiche une hiérarchie de participation politique servant de cadre conceptuel capable d'instiguer une initiative d'économie familiale dans l'élaboration de politiques publiques.

This is a third in a series of articles pertaining to the role of the home economists in forming and influencing public policy. The first article presented a review of the perspective of the Canadian home economics profession as reflected in their writings in the Canadian Home Economics Journal from 1983-1987 regarding the home economist's role in shaping public policy (McGregor 1988a). The suggestion was made that it could not be assumed that Canadian home economists were familiar with the workings of the political system. The position expressed was that in order for home economists to be better able to influence the policy process, they need a working understanding of the Canadian public policy process.

The potential to influence day-to-day political decisions is directly related to a citizen's knowledge, skill, and ability as a political participant (Cummings & Hirschlein, 1984). Parker (1987) has proposed that this knowledge should be part of a home economist's knowledge base, but Johnson (1987) and Vickers (1985) have found that home economists do not feel adequately prepared to get involved in public policy formation. A recent paper (McGregor, 1988b) presented a primer on the Canadian political system to enable home economists to see fewer obstacles to participating and contributing to public policy formation, implementation, and evaluation in Canada.

Vickers (1985) noted that home economists believe they should participate in the political arena but there seems to be a gap between the attitude of home economists and their behavior. This third paper in the series, proposed to address this gap by presenting a model designed to facilitate the involvement of home economists in public policy.

Development of the Model

Conceptual background. We participate politically as a citizen when we somehow contribute to or share in the making of public choices (Adie & Thomas, 1982). Milbrath (1965) developed a three tier hierarchy of political participation. The three degrees or stages of political participation included those of spectator, transitional, and gladiatorial. Variations of these concepts will be the basis of the model proposed in this paper so it is necessary to elaborate on their meaning as interpreted in this paper.

The first concept that needs clarification is that of an hierarchy or a continuum. An hierarchy implies that the lower activities are subordinate to the ones above and that the activities are arranged in a graded or ranked series. A continuum is an uninterrupted ordered sequence. Does the term hierarchy imply that one must move up through the activities in one stage before moving onto the next one, or is an hierarchy just a convenient way to categorize the degree of participation with no implications of

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sequence of activities necessary to guarantee successful progression through the hierarchy of political participation? For example, will a home economist be a more or less successful political participant if they skip the spectator stage and jump into an activity categorized as gladiatorial? For the purpose of this model it is assumed the former perception, and it is proposed that the home economist must initially assume a spectator role prior to progressing through the roles of transitional or gladiatorial. That is not to say that one must engage sequentially in every activity noted under each of the three roles but rather they should participate first as a spectator, then as a person in transition and finally as a gladiator or as a member of the political scene. This approach parallels the consumer hierarchy proposed by Monsma and Bannister (1982) whereby the consumer is assumed to progress sequentially up through the hierarchy progressing from a passive role through to an active and participatory role gaining influence and experience with the successful completion of each prior level of activity.

Operational definitions The next stage of model development was the operational definitions of the three main concepts that will be used to categorize the degrees of political activity. A spectator is someone who is passively looking on or watching and yet is receptive to outside influences to replace with others. They are not taking political actions but are acting as an entity outside of the political process in activities that will direct them towards the political arena. A home economist in a transitional state is undergoing change so as to take a different position. They are passing from one state to another and to facilitate this transition they are engaged in activities that are promoting interaction between themselves and the political process. Assumption of a gladiatorial role implies that a person is engaged in a public fight or controversy. It also implies training. This model proposes that this training was gained by progressing through the stages of the hierarchy to such an extent that the home economist would be acting as en entity in the political process instead of still acting in spectator or transitional activities.

The third stage of developing the model entailed a literature review with the purpose of compiling a list of political activities. The literature review concentrated on the Canadian Home Economics Journal, the Journal of Home Economics, the Home Economics Forum, and several political science textbooks. This was followed by the task of categorizing these according to whether they were spectator, transitional, or gladiatorial activities using the operational definitions as guidelines. The commulative result is shown in Table one.

Table 1. Categorization of Political Activities for Home Economists

Spectator — receptive onlooker

- vote
- discuss politics with colleagues
- incorporate politics into curricula
- observe how an issue evolves
- provide CHEA with basic legislative skills
- provide issues forum
- provide public affairs workshops
- provide training sessions/seminars
- express political opinions
- write to editor of a paper
- sign petition
- wear pins
- contribute money
- take a political science course
- select issues to monitor
- study issues analytically
- think politically
- communicate your views publicly
- develop critical thinking skills and problem solving skills
- encourage students and families to take a political stand
- read the newspaper and follow the media reports
- develop fact sheets
- write a newspaper column or do a radio or TV show

Transitional — interactive role

- form coalitions or group to study an issue
- attend political meetings
- assist in a political campaign
- write to legislators
- contact political offices and agencies
- keep abreast of public policy priorities
- draft resolutions
- send telegrams and letters of support for legislation or bills
- monitor legislation
- write position papers and articles
- develop legislative guidelines for CHEA
- send legislative alerts to CHEA Members
- join protests against a policy issue
- attend social political functions
- assist with elections/voter registration
- develop rapport with senior bureaucrats
- write press releases about policy issues
- go to public forums, task force hearings
- canvas door to door
- meet with legislators and maintain rapport

Gladiatorial — trained participant

- contribute information to help draft regulations or legislation
- prepare expert testimony on behalf of CHEA
- assume political office
- run for political office/election
- work on task force or royal commission
- lobby for an issue

The Conceptual Framework

Cummings and Hirschlein (1984) commented on the payoffs resulting from political participation on an individual, a professional, and a social level. It was implied that all three levels in this system gain different benefits as a result of the home economist involvement in public policy. These concepts can be paralleled with those of Milbrath (1965), and suggestions for another conceptualization of home economists' involvement in public policy can be made. It is suggested that the individual level of participation suggested by Cummings and Hirschlein can be paralleled with that of Milbrath's spectator; the professional with the transitional, and the social with the gladiatorial. The model in Figure one, is suggested as a feasible means of pictorially illustrating this theory.

When the home economist is partaking in any of the activities classified as spectator (see Table one), they are basically gaining personal payoff with the potential to contribute to the association on a professional level. As well, when they are engaging in activities categorized as transitional, they are contributing not only to their own personal growth but even more to the profession of home economics and to the goal of initiating, fostering, and supporting private and public policy, which improves the quality of life for families (one of the goals of the CHEA

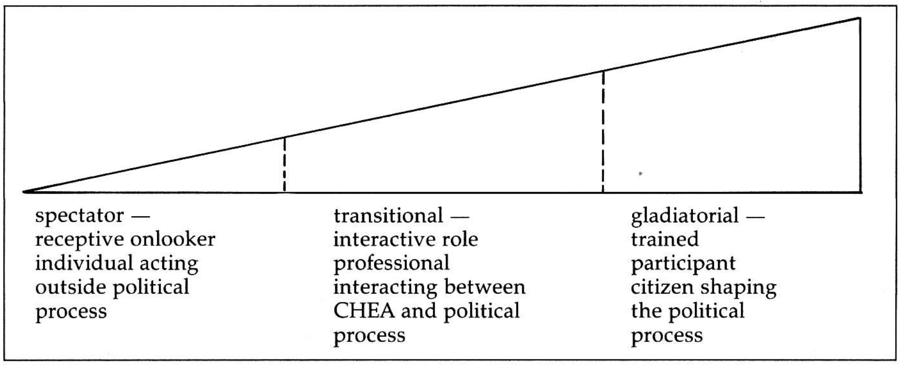

Figure 1. Model of home economists' political participation hierarchy.

strategic plan). Finally, activity at the gladiatorial level implies that the home economist is assuming an active role in the political process and fulfilling their obligation to better the well being of society via democratic citizen partipation.

Discussion

The perforated lines in Figure one imply that it is possible and probable that a home economist will engage in activities that overlap from one proposed degree of participation to another and that this process fosters continual professional and personal growth. Nonetheless, it also implies that indeed everyone affected by this involvement will benefit if the home economist does progress sequentially through the three levels.

This conceptualization does not imply that the spectator activities are any less significant. Rather, it suggests that the scope of the home economists' experiences is broadening as they progress through the stages of the political participation hierarchy. Further, it is unrealistic to expect that everyone should or would aspire to attain a gladiatorial role. There will be those who will better serve the CHEA goal of fostering political involvement by using their strengths at the spectator level and undoubtedly, others who will strive to get more politically involved. Depending on each individual's personal goals, values, and political beliefs, and depending on the mandate of the home economics profession, home economists will progress through the hierarchy at their own pace. But regardless of the rate at which this participation occurs, each individual contribution provides a cumulative effect on the profession and on society.

Conclusion

Vickers (1985), who noted that there was a gap between attitude and behavior regarding political activity, suggested three reasons why home economists should participate in public policy formation. First, citizen participation is essential in a democracy; second, professionals must assure their vested interest; and third, the mission of home economics requires activity on behalf of families. This view is supported in earlier papers (McGregor 1989). The purpose of this paper is to address the gap between the belief that we should participate in the political arena and our actual level of participation by presenting a model to facilitate initiative and subsequent involvement in politics. Home economists may wish to consider adoption of this conceptual framework to direct and pace their political activities and also to study the future success of their involvement. This framework is offered knowing full well that theory development is never complete and that emperical testing of this theory will promote refinement, polishing, and revisions of the conceptual framework. It is suggested that adoption and subsequent refinement of this theory will facilitate home economists in fulfilling their professional and democratic roles as citizens via political involvement for the benefit of Canadian families.

Further, as home economists become actively involved in politics, the profession gains visibility (Cummings & Hirschlein, 1984). This visibility should be accompanied with credibility and reliability of both the information and the processes utilized in the actions we take. This proposed conceptual framework can thus fulfill a dual role of fostering a home economics political initiative as well as profiling and bringing recognitioin to the home economics profession. ☐

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Dual-Earner Family Perspectives

Joan Quilling PhD

Abstract

Dual-earner families represent one of the many alternative family lifestyles emerging today. This family form is not new. History reveals that dual-earner families were the norm prior to the industrial revolution. The work world significantly affects dual-earner families both in terms of family member interaction as well as family/society interaction. By more fully understanding how work influences these families, policy makers will be better able to enhance the stability of these families through legislation. Such legislation can be directed toward reducing sex stereotyping, enhancing family health, and supporting a work environment which considers the needs of these families.

Résumé

Les familles bénéficiant de deux revenus constituent l'un des nombreux modes de vie alternatifs modernes. Cette forme familiale n'est pas nouvelle. L'histoire révèle que les familles à deux revenus étaient monnaie courante avant la révolution industrielle. Le monde du travail affecte de façon importante ces familles en termes d'interaction parmi ses membres et d'interaction famille/société. S'ils comprenaient pleinement les influences du travail sur ces familles, les responsables des politiques pourraient rehausser la stabilité de ces familles par l'intermédiaire de lois. Une telle législation pourrait se pencher sur la diminution des concepts de stéréotypes féminins, l'amélioration de la santé familiale et l'appui d'un environnement de travail tenant compte des besoins de ces familles.

Family lifestyles are changing. No longer is one lifestyle considered the norm for industrialized nations. Instead, societies today consist of single parent families, blended families (divorced and remarried spouses), teenage families, and poor families to name a few. A recently emerging family lifestyle is that of the dual-earner family. More families are assuming such a lifestyle, yet little is known about historical trends which have brought about such an occurrence, research related to their lifestyle, nor the impact these families have upon the larger society.

Historical Perspectives of Work

Industrialized nations are faced with a relatively new phenomena, households in which both adults work outside the home. The typical family consisting of a wage-earning husband with a homemaker wife and two children, now represents only about five percent of all families in the United States (*Changing Times*, 1982). In Canada, the number of single parent families rose 27.6% between 1976 and 1981 (Canadian Council, 1985). These data reinforce that a changing economy coupled with an increased lifespan have fostered more diverse lifestyles. Work outside the home has become just as significant a factor in the adult female's life as it has traditionally been in the adult male's life. Is this a new phenomenon? History would tell us no. The work roles of men and women were never as divergent as they became during the industrial revolution. Until that time, work was carried out within and around the home and both partners contributed to family maintenance.

Connellan (1978) reviewed the status of work historically and summarized several work related themes. In primitive cultures, for example, work and free time were rarely distinguished. Practically all working hours were spent by both males and females tending to basic needs. The ancient Greek, Roman, and Egyptian cultures viewed work as a curse to be done only by slaves. During the sixteenth century reformation period, work was done in obedience to God. Both husband, wife, and children had a significant role to play in this effort.

The nineteenth century industrial revolution saw occupations become legitimate spheres of action. The separation of male/female work arenas became the prominant lifestyle for the middle class. By the twentieth century work as a virtue was separated from religion. During the latter half of this century, females began to enter male work spheres in significant numbers.

A review of the past reveals that over time, both males and females have played a significant role with regard to work. The industrial revolution tended to make the female's work role less visable to society since she was expected to remain in the home.

The separation of male/female work arenas held until about the 1960s when the barriers between the two worlds gradually dissolved. Today, some economists and futurists predict a return to a pre-industrial revolution

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*Dual-earner families refer to married couples, with or without children, both of whom are pursuing employment outside the home. This term was used by Pleck (1985) in family analyses studies.

work ethic. Because the nature of work is changing due to readily available technology, more work can be done in the home and transferred electronically to the work place. Should this trend become more prevalent, work contributions could be more obvious to all family members. The work done by family members would be an integral part of the family's interaction patterns. Such is not the norm today. Since work is predominantely done in an arena apart from the home and is paid for by an employer, the world of work is largely separated from the home. The interactions which occur in either area are not expected to spill over into one another. Typically, employees are terminated if their family responsibilities prevent them from performing their work roles effectively.

Research Findings

Today, female work patterns are moving closer to those of men's (Simpson, 1981). Forces stimulating this transition include greater freedom of choice, changing commitments to work, and less dependence on traditions and standards (Ferber and Bernbaum, 1982). What are the implications of such change upon family members and society as a whole? Recent research studies on dual-earner families provide a partial response to this question. A review of several studies examining dual-earner families revealed findings that can be classified under two major headings: the influence of work upon family member interaction and the influence of work on family/society interaction. The following summarizes selected research findings regarding dual-earner families.

A. The influence of work upon family member interaction

According to Rapoport (1980), working women encounter problems. They increase the number of family problems they must deal with since they function within two separate environments, i.e., the home and the work place. If they have a large family, the work responsibilities tend to be divided along traditional lines further intensifying the traditional work roles of the industrialized society. In the work place, they are discriminated against because they are female.

Peronneau (1983) found that a working wife influences the number of children born to a family thereby significantly affecting the family's economic base. In addition, the adult's ability to manage work and family roles has an affect upon marital satisfaction.

Blumenstein (1983) found that dual-earner families must manage conflict. If a couple disagrees about work, it can affect their satisfaction as a couple. More fights ensue about child rearing when a wife works. When husbands assume more housework, more conflict between the couple occurs. But, a working wife helps to equalize power within the family structure. Finally, psychologically, women want more time to themselves than men. Yet if a wife works, she is tending to reduce available time for solitude because of the demands on her time.

The family structure is influenced by a working wife, according to Geerken (1983). Families feel that working parents negatively influence the family. However, the working wife has the opportunity to define her own specific role within society versus accepting the husband's definition of her role as do many non-working wives. If children are absent from the relationship, working wives tend to have more intense, positive interactions with their husbands. Ultimately, the wife's commitment to work is influenced by her level of education and income obtained from working.

The psychological and physical health of the family is not adversely affected when a wife works. Draughn (1982) found that the self concept of middle-aged men was not significantly influenced by a working wife. Piotrkowski (1979) concluded that husbands of working women were healthier physically and emotionally than husbands of unemployed homemakers.

B. The influence of work on family/society interaction

Farrel (1982) found that women work for the same reasons as men, that is for income, personal satisfaction, and socialization. She also discovered that few policies exist regarding maternal employment. The lack of policies prevents women from developing a clearer definition of their place within society.

The careers of women are significantly affected by their family relationships. If, according to Giraldo (1980) she follows her husband to his new position, she tends to take any job available versus achieving a career plan. If a husband follows his wife to a new job, he is stigmatized by his colleagues.

The income of women workers are well known to be lower than those of males in similar positions. Hartzog (1981) found that females earn less than males because they assume low paying jobs or are paid less for similar work. Society does not seem to know how to deal with dual-earner families. Many agencies still pay the man more because he has a family. Yet, many women do work comparable to men but they are payed less even though they too have a family.

Piotrkowski (1979) and Chilman (1988) looked at the relationship between families and economics. Piotrkowski (1979) found that when family members must work long hours, there is less leisure time and more stress upon them. Also, the needs of the work organization tend to significantly influence family and work relationships. Chilman (1988) concluded from her studies that today's families can only partially control their economic situation.

Family satisfaction is influenced by a variety of factors. Harris (1981) concluded that the needs of individuals to balance family and work are influenced by children and finances, among others. Blumenstein (1983) found that when employed wives were satisfied with their jobs, they tended to be happy with their families.

Perhaps Guttentag and Secord (1983) described the current status of dual-earner couples best when they said:

> ... [these] couples are currently trying to function in a social world which, while it has loosened up slightly, is by and large structured to accommodate only the traditional family. Unconventional families, in addition to having greater role stress than convential families must cope with the lack of fit between their social/business role and their unusual private roles (p. 238).

Analysis

These findings represent only a portion of the data being gathered by various individuals and agencies to more clearly interpret qualities of dual-earner families. It must be kept in mind that more extensive study over time will be needed to determine the wealth of variables impacting upon such families. At this point, however, these data seem to suggest that forces outside the family are causing both adult family members to assume greater financial responsibility for the family.

While family members may feel that when both adults work, the family suffers, there are positive benefits from a dual-earner lifestyle, i.e., good health. However, some of the drawbacks of this lifestyle are that family members striving to achieve in a dual-earner environment are confused, suffer significant stress, and have only limited support for their efforts from society. Because the dual-earner lifestyle is a relatively new phenomenon, society as yet does not know how to react to such families. The continuing growth in the number of families exhibiting such a lifestyle will bring about changed family policies.

Impact of the Dual-Earner Lifestyle

Women will continue to enter and function as workers in society. Society needs to sustain such change because the nation's productivity depends upon the efforts of all workers not just male workers (Fogarty, 1971). As a result, the power base of the family which was traditionally vested in the male's work role will be subdivided and more equally shared. Currently, according to Piotrkowski (1979), families are under significant pressure from society. Adults must sell time to the work place to attain the desired lifestyle. The more time they sell, the greater degree of family stress. If the amount of time sold to the work place is excessive, people may change partners and families in order to achieve an acceptable balance between work and home life.

Society needs to help in establishing an environment that sustains dual-earner families. Work settings which accommodate the needs of both males and females would go a long way toward easing family tensions. Accommodations that would facilitate dual-earner family work relationships include:

- increased opportunity for part-time work
- a choice of benefit plans that accommodate different family needs
- leaves of absence which do not penalize male and female workers
- no penalties for declining career moves which do not accommodate the work roles of both adult family members (Harris, 1981).

Summary

Professionals working to facilitate quality work and family life must recognize the diversity of families within society. The dual-earner family represents only one of the lifestyles that individuals may choose. Strategies employed to help these families need to be tailored to that lifestyle and could include:

a) working within employment settings to reduce barriers which hamper the productive employment of dual-earner families.
b) conducting research which analyzes barriers to employment of both males and females.
c) carrying out case study analyses which examine how productivity could be increased in the home and on the job in order to reduce family stress.
d) informing diverse audiences of existing sex stereotypes which inhibit the full use of human talent.
e) conducting training programs related to coordinating family life and work throughout the life cycle.

Steps such as these will facilitate society's accommodation to dual-earner families. These families are breaking new ground in human interaction, life cycle management, and resource allocation. Professionals concerned with supporting the well-being of families need to use every means at their disposal to support a quality work life for dual-earner families. ☐

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Research Section

Evaluation of a Soy Frozen Dessert Formulated with Soy Milk or Tofu

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Abstract

This study was designed to evaluate the eating quality and approximate composition of a frozen dessert into which soy milk or soy bean curd (tofu) was incorporated. Four types of soy frozen dessert were prepared and delivered to the cafeteria of a women's residence and evaluated by 50 students during lunch. A 9-point Hedonic scale was used for the sensory evaluation and analysis of variance was performed on the data. The texture and flavor of a frozen dessert prepared from lab-produced or commercially produced milk were superior ($p < .05$) to those prepared from tofu or soy milk powder. Chemical analysis showed that soy frozen dessert was lower in fat and ash content when compared with commercial ice cream; however, there was little difference in their protein content. This experiment suggests that an acceptable soy frozen dessert can be produced from a commercially or lab-produced soy milk.

Résumé

Le but de cette étude était d'évaluer la qualité d'alimentation et la composition approximative d'un dessert congelé contenant du lait de soja ou grains de fève soja (tofu). On a préparé et livré à la cafétéria d'une résidence de femmes quatre types de desserts au soja congelés que 50 étudiantes ont évalué au cours du dîner. Une échelle hédonistique de 9 points a servi à l'évaluation sensorielle et une analyse de variable a été effectuée sur les données. La texture et la saveur d'un dessert congelé préparé de lait produit en laboratoire ou de lait commercial étaient supérieures ($p < 0,05$) à celles des desserts à base de tofu ou de poudre de lait de soja. L'analyse chimique a démontré que le dessert congelé au soja affichait une plus faible teneur en gras et éléments minéraux que la crème glacée commerciale; cependant, leur contenu en protéines ne variait que très peu. Cette expérience suggère qu'il est possible de produire un dessert congelé au soja acceptable à partir de lait de soja commercial ou fabriqué en laboratoire.

An increased awareness of the association between health and diet has encouraged the development of many soy products such as soy-fortified bread (Elgedaily, Campbell, & Penfield, 1982; Sipos, Turro, & William, 1974); soy protein enriched cake (Turro & Sipos, 1970); and textured soy products simulating beef, chicken, or ham (Lockmiller, 1972). Recently, Hannigan (1982) suggested the use of soy isolate and corn sweetener to prepare frozen desserts similar to ice cream, ice milk, or sherbet. Because frozen desserts are so popular in the North American diet, such innovative products hold promise for the future.

Soy isolate contains 90-95% protein (Smith & Circle, 1972) and its nutritional benefits include its high-quality protein and low fat and cholesterol content. Soy milk and tofu offer similar nutritional benefits. However, unlike soy milk and tofu, soy isolate is usually prepared from soy grits or soy flour using a complicated, lengthy process (Lockmiller, 1972) and consequently may be more costly to produce than soy milk or tofu (Del valle, De Alba, Mariscal, Jimenez, Arellane, Portillo, Casas, Tristan, & Pominquez, 1984; Shih, 1970). It would, therefore, be more economically ideal if soy milk or tofu could be used in formulating a frozen dessert.

Soy milk has been used as a beverage in China, Japan, and other oriental countries for centuries, but it has only gradually appeared in North America within the last two decades. It can be fortified with calcium (Hirotsuka, Taniguch, Narita, & Kito, 1984) to improve its calcium content. It may also be fortified by the addition of pearl barley and malt to form a flavorful soy drink called "Edensoy" which lacks the beany flavor (Haumann, 1984). The beneficial effect of soy milk usage as a beverage or in food preparation has been well-recognized as being a substitute for milk for persons who are vegetarians or allergic to cow's milk. Soy milk provides a source of high quality protein which is low in fat and lacking in cholesterol. When compared with cow's milk, it contains 52% more protein, 12% fewer calories, 24% less fat and 16% less carbohydrate (Haumann, 1984).

Tofu is a soy milk product made by adding a coagulant such as calcium sulfate. This causes coagulation of soy protein and it is then put through a perforated box to separate out the liquid portion (Del valle et al., 1984; Fukushima, 1981). Tofu is a valuable source of high-quality protein (6-7.5%

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protein (Smith, Watanabe, & Nash, 1960; Wang, 1984). It is low in fat (3.5%) and is cholesterol-free. Since it is bland in flavor, it may be incorporated into many existing products such as soups and salad dressings or flavored as a meat alternate (Anonymous, 1986). In recent years, a number of oriental soy bean products have appeared in American markets. Of these, the most popular is tofu (Fukushima, 1981; Wang, 1984).

The increasing availability of soy beans, soy milk, and tofu in ethnic and health food stores and supermarkets suggests that research into methods of incorporating soy products into popular foods such as frozen desserts might provide valuable information. In particular, consumers or large institutions interested in using soy products as part of a low-fat or high-protein diet may benefit from these research results. The objectives of this study were to prepare a soy milk from soy beans that could be incorporated into the formula of a frozen dessert, and then to evaluate the sensory quality of this soy frozen dessert and compare its proximate composition with that of commercial frozen desserts.

Materials and Methods

Materials and soy frozen dessert making. Three sources of soy milk and one source of tofu were used to make the frozen dessert. The lab-produced soy milk was made from soy beans which had been soaked overnight, ground, and then separated from the solids. The amount of soy milk produced from 200 g of soy beans was approximately 1400 mL. The second source of soy milk was purchased from an oriental market (marked as *NUTRISOY* and packed into a 1 L carton). It had a creamy yellow color and slightly sweet taste. The third source of soy milk was prepared from soy milk powder produced by Ralston Purina Co. of St. Louis, USA, containing soy isolate as a component. It was reconstituted with water according to manufacturer's suggestions to form a product similar to 2% milk.

The tofu used to produce the soy frozen dessert was purchased from an oriental food market. To reduce its density, an amount of 500 g of tofu was blended with sufficient water to make a volume of 1300 mL prior to its use.

The basic soy frozen dessert formula is presented in Table 1. In this formula, soy milk or tofu was the major ingredient, followed by the fruit component. Fruit was used in an effort to reduce the beany taste of soy milk and tofu. Gelatin was added to improve the body and texture of the product. The frozen dessert so produced was similar to the appearance of an ice cream.

Table 1. Basic Soy Frozen Dessert Formula

Ingredient	Volume (mL)	Weight (g)
Soy milk or tofu	1300	
Sugar		450
Unflavored gelatin		15
Bananas (ripe) (3)		400
Lemonade concentrate		180
Pineapple juice concentrate		180
Orange juice concentrate		180
Vanilla		15
Soy oil		125

Four types of soy frozen dessert were prepared in a conventional ice cream freezer. They were: A (prepared from lab-produced soy milk), B (prepared from Nutrisoy), C (prepared from tofu) and D (prepared from soy milk powder). These products were prepared and kept frozen two days prior to the sensory evaluation.

Sensory evaluation. Sensory evaluation of the soy frozen desserts was conducted during a lunch hour by 50 volunteer students in the cafeteria of a woman's college. A 100 mL sample of each of the four types of frozen desserts was placed into individual paper cups labelled with a random 2-digit number. A 9-point Hedonic rating scale was used to indicate the degree of liking and preference for color, texture, and flavor of each of the frozen desserts as well as to rate overall acceptability of the product. To determine the students' general liking for a frozen dessert such as ice cream, they were also asked to indicate their frequency of ice cream consumption and their favorite flavor of ice cream. Results of the sensory evaluation were subjected to analysis of variance (Amerine, Pangborn, & Roessler, 1965) and Tukey's test for significance of difference between means (Larmond, 1977).

Proximate analysis of frozen dessert. The chemical composition of the four types of soy frozen dessert and three types of commercial ice cream (Beatrice) were determined by various published methods. The protein content was determined by the Microkjeldahl procedure (Meloan & Pomeranz, 1973). Crude fat content was determined by a simplified method developed by the author using as a reference, *Approved methods* (American Association of Cereal Chemists, 1983.) This method required small amounts of the sample (200 mg) and small amounts of fat solvent (11 mL each of ethyl ether and petroleum ether) for fat extraction from food. Ash and moisture determination were analyzed by commonly used methods (Lees, 1971; Meloan & Pomeranz, 1973). Carbohydrate content was determined by subtracting the above constituents from the total weight. All determinations were performed in duplicate.

Results and Discussion

Sensory evaluation. The results of the sensory evaluation of the four frozen desserts are presented in Table 2. Statistical analysis indicates that the flavor and texture of frozen desserts prepared from lab-produced soy milk or commercial soy milk (Product A and Product B) were preferred over that of the frozen desserts prepared from tofu or soy milk powder (Product C and Product D). With respect to color, frozen desserts prepared from commercial soy milk were preferred to that prepared from soy milk powder. Frozen desserts prepared from com-

Table 2. Effect of Soy Milk and Tofu on the Sensory Score[a] of Soy Frozen Dessert

	Soy Frozen Dessert				
Attribute	A (Lab-produced soy milk)	B (Commercially prepared soy)	C (Tofu)	D (Soy milk)	Statistical Significance ($p < .05$)
Color	6.1 ± 0.9	6.3 ± 1.1	5.7 ± 0.8	5.4 ± 1.6	B > D
Texture	6.6 ± 1.6	6.5 ± 1.5	5.3 ± 1.9	5.2 ± 1.7	A,B > C,D
Flavor	6.2 ± 2.0	6.6 ± 1.7	5.1 ± 1.8	4.4 ± 2.0	A,B > C,D
Overall acceptability	5.5 ± 2.3	6.2 ± 1.7	5.1 ± 1.9	4.6 ± 1.9	B > C,D

[a] Mean value and standard deviation of each frozen dessert as evaluated by 50 college students.

Table 3. Eating Frequency and Favored Flavor of Commercial Ice Cream

Information Surveyed	Students' Response *n*	%
Frequency		
Once every 3 days	14	28
Once a week	22	44
Other[a]	14	28
Favored flavor		
Vanilla	14	28
Chocolate	26	52
Other[b]	10	20

[a] Once a day, twice a day, or once a month.

[b] Strawberry, butter pecan, or praline.

mercial soy milk were rated overall as more acceptable than frozen desserts prepared from tofu or soy milk powder.

Twenty percent of the evaluators commented that the frozen desserts prepared from liquid soy milk had a creamy yellow coloring, smooth consistency, and a pleasant fruity taste. In contrast, they indicated that frozen desserts prepared from tofu had an uneven, lumpy texture and an unattractive greyish white color. Similarly, they noted that the frozen desserts prepared from soy milk powder had a chalky white color and an unpleasant buttery taste.

On examination of the ingredients, it was noted that the liquid soy milk was light in color, thin in consistency, and had a faint beany taste. Tofu used in this study had a greyish white color and firm texture. The texture of tofu varies from soft to firm, depending on its water content (Wang, 1984) and the amount of coagulant used (Johnson & Wilson, 1984). Firm tofu needs to be blended longer to produce a smooth consistency. Perhaps an insufficient blending-time for the water-tofu mixture may have been responsible for the lumpy texture of the frozen dessert product. Since all of the dessserts contained gelatin and were frozen similarly, these factors were probably not responsible for the lumpy texture of the tofu frozen dessert. Soy milk powder had a chalky white color and strong buttery taste when reconstituted with water prior to use; this may have resulted in the unattractive color and unpleasant taste of the frozen dessert product despite the addition of fruit. As suggested by Arbuckle (1986), this study confirms that good eating quality of a frozen dessert such as ice cream is associated with a smooth texture, attractive color, and pleasant taste.

The laboratory-produced milk was made by a simple procedure. The process involved soaking and grinding the soy beans and then separating the soy milk from the solids. To minimize its raw flavor, soy milk was carefully boiled for 30 minutes. This heating procedure should be done at low to moderate temperatures to avoid scorching or boiling over of the milk.

Ice cream survey. Results of the survey on the frequency of consumption and favored ice cream flavor are shown in Table 3. These results indicate that 44% of the students consumed ice cream once a week and 28% twice weekly. The most favored ice cream flavor is chocolate (52% of the students) and the next most favored is vanilla (28% of the students). At present, no similar studies or published data are available for comparison.

Approximate composition analysis. Results of proximate analysis of the four types of soy frozen desserts and three types of commercial ice cream are summarized in Table 4. Results indicate that all soy frozen desserts are similar in composition. The slight variation in composition of each ice cream is expected because of the different sources of soy milk and tofu used in preparing the product. In addition, soy milk's composition may vary, depending on the variety of soy beans used (Johnson & Wilson, 1984).

When the three types of commercial ice cream were analyzed for comparison, chocolate ice cream showed a higher carbohydrate and fat content and lower moisture content as compared to vanilla or strawberry ice creams. These results are in general agreement with data published elsewhere (Pennington & Church, 1985). The higher level of carbohydrate and fat content in chocolate ice cream is apparently due to the high content of each in cocoa or chocolate used in its formula.

In comparison with commercial ice cream, soy frozen desserts are generally lower in fat content, comparable in protein and carbohydrate content, and higher in moisture content. The lower fat content of the soy ice cream is due to the low fat content of soy milk or tofu, since soy milk usually contains less than 1.6% fat (Haumann, 1984), whereas tofu contains about 4.3% (Wang, 1984). It is evident that use of soy milk or tofu may be advantageous in producing a low-fat product.

Commercial ice creams and frozen desserts produced with soy milk powder contain similar mineral content. This is to be expected since the soy milk powder was formulated to resemble 2% milk in its reconstituted form. Frozen desserts prepared from liquid soy milk or tofu contained a lower mineral content than commercial ice cream. Regardless, soy frozen desserts still provide a fair source of dietary calcium (soy milk contains 55 mg Ca/237 mL and tofu contains 128 mg Ca/100 g) (Pennington & Church, 1985).

Conclusion

This study illustrates a simple, feasible procedure that may be used to produce a palatable frozen dessert from soy milk or tofu. Results of sensory evaluation of soy frozen dessert indicate that lab-produced or commercially produced soy milk can be used to prepare an acceptable soy frozen dessert. All frozen desserts except that prepared from soy milk powder show good acceptability ratings (5-6) on a 9-point scale. While the evaluators were female students and the results may not be applicable to the general population, the results suggest that there may be potential for the use of soy beans, soy milk, or tofu in

Table 4. Chemical Analysis of Soy Frozen Dessert and Commercial Ice Cream[a]

Ice Cream	Water	Carbohydrate[b]	Fat	Protein	Ash
			%		
A (lab-produced soy milk)	65.9	27.2	3.2	3.3	0.4
B (commercially prepared soy milk)	68.4	25.1	3.6	2.6	0.3
C (tofu)	66.0	28.6	2.9	2.2	0.3
D (soy milk powder)	63.8	28.2	4.0	3.3	0.7
Vanilla ice cream	59.2	24.6	11.7	3.6	0.9
Chocolate ice cream	56.9	26.1	12.0	4.0	1.0
Strawberry ice cream	63.3	23.1	9.2	3.6	0.8

[a] Values represent an average of duplicate.

[b] The difference was calculated after the known percentage of other nutrients was subtracted from the total.

the formulation of an acceptable frozen dessert for home or institutional use.

The proximate analysis of the four types of soy frozen dessert indicates that they are all of similar composition. Comparison of the soy frozen dessert to commercial ice cream demonstrates that the soy ice cream is lower in fat content. These results would suggest that soy frozen dessert may be used as a suitable ice cream substitute for persons on calorie-restricted or low-fat or low-cholesterol diets.

Further studies are needed to improve the eating quality of tofu frozen desserts. Perhaps a more thorough blending of the tofu-water mixture or the use of different flavorings might improve the color, flavor, and texture of the frozen dessert. The texture of frozen desserts might be objectively assessed by testing the overrun or the melting property of the product.

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Issues and Trends In Consumer Research

The Canadian Association for Research in Home Economics/L'Association Canadienne pour la Recherche en Economie Familiale (CARHE/ACREF) will meet **May 31, June 1-2, 1989** with the Learned Societies, Université Laval, Quebec. **Jocelyne Neveu, Consumer and Corporate Affairs Canada, Ottawa will speak on National Research Priorities in Consumer Studies.** For information contact:

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Information Search and Satisfaction of Carpet Buyers

Jennifer Grieve-Malpass and E.M. Crown

Abstract

The purpose of this two-phase longitudinal study was to determine if relationships exist between extent and type of prepurchase search behavior and postpurchase satisfaction/dissatisfaction with carpet. Consumers who bought carpet in the Edmonton area completed questionnaires at the time of purchase and approximately 8 months later. Carpets purchased by respondents with a greater store search were more likely to exceed or meet expectations of the carpet. Respondents who initially found salespeople, booklets, and pamphlets most useful were more satisfied than respondents who initially found magazine and newspaper advertisements most useful. The Canadian Carpet Institute label assisted carpet buyers in making a satisfactory purchase. Dissatisfaction with a previous carpet resulted in greater satisfaction with a replacement carpet. Consumers who were initially satisfied with their carpet shortly after installation were likely to be satisfied approximately 8 months later.

Résumé

Le but de cette étude longitudinale en deux phases était de déterminer s'il existe une relation entre la portée et le type de comportement de recherche avant achat et la satisfaction/insatisfaction suivant l'achat d'une moquette. Les consommateurs ayant acheté dans la région d'Edmonton ont rempli un questionnaire au moment de l'achat puis environ 8 mois plus tard. Les moquettes achetées par les répondants ayant effectué plus de recherches avant de conclure le marché devaient plus vraisemblablement satisfaire aux attentes du client ou les dépasser. Les répondants qui avaient préalablement consulté des vendeurs, lu des livrets et brochures étaient plus satisfaits que ceux qui s'étaient d'abord fiés aux annonces publicitaires de journaux et revues. L'étiquette du Canadian Carpet Institute (l'Institut canadien de la moquette) a aidé les acheteurs à prendre leur décision. L'insatisfaction envers une ancienne moquette a résulté en une satisfaction accrue face à sa remplaçante. Les consommateurs d'abord satisfaits de leur moquette peu après son installation devaient vraisemblablement en demeurer satisfaits 8 mois plus tard.

Consumer dissatisfaction has contributed in part to the rise of the consumer movement. Consumer decision making does not end at the point of purchase but continues as consumers use the product and evaluate their choices. This study investigated the relationship between prepurchase information search and postpurchase satisfaction/dissatisfaction with the purchase of a durable product, carpet.

This study was the second phase of a longitudinal research project designed to evaluate the effectiveness of the Canadian Carpet Institute's (CCI) voluntary performance labelling program. The main focus of phase I, (Hartman, 1982), was to determine the extent and type of consumer prepurchase search behavior when purchasing carpet, specifically to study consumer awareness, understanding, and use of the CCI label and pamphlet. The purpose of the phase II study was to determine if relationships exist between extent and type of prepurchase search behavior and postpurchase satisfaction/dissatisfaction, particularly the problems associated with inappropriate selection and placement of carpet. A follow-up study on postpurchase satisfaction 8 months after purchase was appropriate because many carpet problems show up within 6 months of use (Steiniger & Dardis, 1971).

Background and Phase I Summary

In 1979, the Canadian Carpet Institute (CCI) introduced a voluntary performance labelling program with the purpose of advising consumers at the point of purchase of a carpet's expected appearance retention compared to other carpets. Three appearance retention classes for carpet were established — light, medium, and plus — based on performance criteria developed by industry experts. In addition to the label, a pamphlet,

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"Shopping for Carpet? . . . The Classification Label Can Help You" (Canadian Carpet Institute, 1979), was introduced to guide the consumer in the selection of the most appropriate carpet classification for each room in the home, considering family size, habits, and traffic patterns.

The population of interest for the study comprised consumers who had recently purchased broadloom carpet. With the assistance of a major carpet distributor and cooperating Edmonton area retailers, a sample of such carpet consumers was selected for phase I during June and July 1982 (Hartman, 1982). Of the 203 consumers contacted, 109 completed both a telephone interview and a self-administered questionnaire within 2 weeks of their carpet purchase. The person most involved in the carpet purchase answered the questionnaire, which included items to measure the following: extent and type of prepurchase search; most useful information source; awareness, understanding, impact, and perceived helpfulness of the CCI label; expectations of carpet performance; and initial satisfaction with carpet.

The findings of phase I showed that the carpet buyers conducted a relatively limited search. Almost 54% of the respondents spent less than one month looking for carpet. The mean number of different stores visited was 2.8 and 4.8 was the mean number of store visits. Thirty-nine percent of the respondents did not consider any other carpets when making their purchase decision and 30% considered one other alternative. The mean number of different information sources consulted by carpet buyers was 3.3.

The carpet salesperson was the primary source of information. More than half of the respondents (52%) considered the carpet salesperson the most useful source of information. Thirty-one percent were aware of the CCI label; however, only 11% of these respondents were aware of the CCI pamphlet, and only 56% were sure their carpet had a CCI label at the point of purchase. Of the respondents who were aware of the label, 56% had at least some understanding of the information on the CCI label, 68% thought the CCI label affected their choice when purchasing carpet, and 50% found the CCI label helpful in their purchase selection. All respondents expected their carpet to withstand traffic at least quite well and 94% expected it to withstand traffic very well. This finding reflects that of Sproles and Geistfeld (1978), that consumers' expectations regarding textile purchases were extremely high. The mean expected life of carpet was 11 years and the range was from 4 to 25 years.

None of the respondents were initially dissatisfied with their carpet. Initial expectation confirmation is an indirect measure of initial satisfaction and 91% of respondents thought the purchased carpet met their expectations. Almost 88% of the respondents were sure they had made the best carpet selection and only 3% were unsure of their choice of carpet.

Justification for the Study

In a study of consumer satisfaction and complaining behavior among Canadian consumers, the most frequent reason given for dissatisfaction with housing and home furnishings was inferior quality of materials (Ash, 1980). Carpet problems analyzed by the University of Alberta's Textile Analysis Service, however, reveal that complaints about quality often result from inappropriate selection and placement. Anderson (1977) reported that satisfaction with carpet is influenced by the type and extent of prepurchase search activity.

The Engel, Blackwell, and Miniard (1986, p. 145) model of consumer behavior suggests that theoretically, the use of product information when evaluating alternatives should assist the consumer in the decision process, thus, reducing postpurchase dissatisfaction. It follows that the CCI program, which provides information about expected performance of carpet alternatives, should reduce postpurchase dissatisfaction due to inappropriate selection and placement. There is a definite need to evaluate the impact of the voluntary CCI labelling program on consumers as well as to utilize the findings in designing future programs and revising existing programs. If the program is successful, manufacturers of other home furnishing products may follow suit and introduce additional informative labelling programs thus reducing the demand for government regulation.

By studying the relationships between consumer prepurchase information search and postpurchase satisfaction/dissatisfaction with carpet, it was hoped that the findings would not only help to determine the effectiveness of the voluntary labelling program, but would also contribute to a better understanding of the relationship between prepurchase behavior and postpurchase satisfaction.

Objectives and Null Hypotheses

The objectives for the study were as follows:

- To determine the incidence and type of carpet problems encountered approximately 8 months after purchase, especially those related to inappropriate selection and placement.
- To develop a measure of postpurchase satisfaction/dissatisfaction with carpet.
- To investigate the relationship between postpurchase satisfaction/dissatisfaction approximately 8 months after purchase and several phase I variables.

The following null hypotheses were tested to meet objective three:

(1) No significant relationship exists between the extent of prepurchase search and postpurchase satisfaction/dissatisfaction.

(2) There is no significant difference in postpurchase satisfaction/dissatisfaction among consumers differing in: a) information source considered most useful; b) prepurchase awareness of the CCI label; c) prepurchase understanding of the CCI label; and d) perceived impact of the CCI label.

(3) No significant relationship exists between the perceived helpfulness of the CCI label and postpurchase satisfaction/dissatisfaction.

(4) There is no significant difference in postpurchase satisfaction/dissatisfaction among consumers differing in initial expectation of carpet performance.

(5) No significant relationship exists between postpurchase satisfaction/dissatisfaction and each of the following: a) expected life of carpet in years; b) consumer prior experience with carpet; and c) consumer initial satisfaction with carpet.

Method

The consumer sample. The longitudinal nature of this study necessitated the use of the same sample for both phase I and phase II. The 109 respondents from phase I were contacted by telephone in February, 1983, to arrange delivery of the phase II questionnaire. If respondents were home at the time of delivery, they were asked to complete the questionnaire. If respondents were not home or did not have time to complete the questionnaire, a covering letter and postage-paid, self-addressed envelope accompanied the questionnaire. Follow-up telephone calls were made to ensure completion and return of the questionnaire.

Of the initial 109 phase I respondents, 92 (84.4%) returned their phase II questionnaires. Of those who did not return questionnaires, 9 could not be contacted and 8 failed to do so despite three follow-up telephone calls. All results cited in this paper (including those above for phase I) are based on the phase II sample only.

Research instrument. A multiple measure approach was used to determine satisfaction with carpet. The short two-page instrument for the second phase comprised 5-point Likert-type items to measure the following: general carpet satisfaction; individual carpet attribute satisfactions based on choice criteria identified in phase I (price[1], color, style, durability, installation and service, ease of cleaning, potential to hide dirt); and indirect measures of satisfaction (expectation confirmation; and intention to recommend carpet/retailer to others). Respondents were asked to list satisfactory and dissatisfactory attributes.

A composite index of satisfaction was derived for each respondent by averaging the seven attribute satisfaction scores. A test of reliability (SPSS Inc., 1986, p.857) with an alpha value of .79 indicated moderately high reliability for this measure of satisfaction. Principal components analysis (SPSS Inc., 1986, p.715) of the composite index of satisfaction showed moderately high weights (.60 to .73) for all carpet attributes included in the index with the exception of color satisfaction (.37). Thus, a simple unweighted average of all the attribute satisfaction scores was used. All measures of satisfaction/dissatisfaction, including the individual attribute satisfaction scores, were included in hypotheses testing.

Analysis of the data. For each variable, frequencies, percentage distributions and, where appropriate, means were calculated. Hypotheses were tested using Pearson product-moment correlation coefficients and oneway analysis of variance. Crosstabulations were done to support and elucidate the results of correlation analyses.

Results and Discussion

Postpurchase satisfaction. There were nine direct measures of postpurchase satisfaction/dissatisfaction including the composite index. Almost 95% of the respondents were at least somewhat satisfied with their carpet in general. On a scale of 1 to 5, the mean score of general satisfaction with carpet was 4.7, somewhat higher than most of the mean scores of the individual carpet attribute satisfactions. Color was the most satisfying carpet attribute with a mean score of 4.8. Installation satisfaction and soil hiding satisfaction had the lowest means (both 4.3). Fifteen percent of the respondents were dissatisfied with the installation and service of their carpet purchase and 11% were dissatisfied with the ability of their carpet to hide soil. A mean of 4.4 for the composite index of satisfaction is lower than the general carpet satisfaction mean score. This finding might reflect the fact that some salient attributes were not included in the scale items which contributed to the composite index (see "Satisfactory and dissatisfactory attributes" section below.)

There were three indirect measures of consumer satisfaction/dissatisfaction in the phase II questionnaire: postpurchase expectation confirmation, intention to recommend the carpet to others, and the intention to recommend the retailer. Ninety-three percent of respondents felt their carpet had met or exceeded their expectations; 83% agreed that they would recommend their carpet to others; and 80% agreed that they would recommend the retailer to others.

Satisfactory and dissatisfactory attributes. In response to the open-ended questions concerning satisfactory and dissatisfactory items, the most frequently mentioned satisfactory attributes were color, appearance and feel, followed by durability, ease of cleaning, and soil-hiding. The most frequently mentioned dissatisfactory attributes were installation, followed by dirt showing, vacuum marks and footprints showing, and color. If quality of workmanship (installation) is considered a subset of product quality, these findings support those of Day and Ash (1979) that product quality is the major source of dissatisfaction for home furnishings. Installation might more appropriately be considered a service rather than product quality, however.

Carpeting is a truly complex product since many of the respondents mentioned dissatisfactory attributes as well as satisfactory attributes corresponding to the findings of Day (1977). These findings also reflect those of Swan and Combs (1976) and Maddox (1981) that expressive attributes (relating to psychological performance) are more often associated with satisfaction while instrumental attributes (relating to physical performance) are associated with dissatisfaction.

Table 1. Correlation Among Postpurchase Satisfaction/Dissatisfaction Measures

Measure of Postpurchase Satisfaction/Dissatisfaction	*n*	Correlation Coefficient (*r*) General Satisfaction	Correlation Coefficient (*r*) Composite Index of Satisfaction
Composite Index of Satisfaction	92	.549*	—
Postpurchase Expectation Confirmation	91	.485*	.467*
Intention to Recommend Carpet	91	.722*	.630*
Intention to Recommend Retailer	90	.473*	.489*

*$p < .001$

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[1] Price satisfaction is included in discussion of attribute satisfaction although it is recognized that price is not truly a product attribute.

Correlations among postpurchase satisfaction/dissatisfaction measures. Pearson correlation coefficients were used to analyze relationships among the measures of postpurchase satisfaction/dissatisfaction (Table 1). There were moderately high and significant positive correlations between general satisfaction and the composite index of satisfaction, postpurchase expectation confirmation, and intentions to recommend both the carpet and the retailer to others. Crosstabulations confirmed that those respondents indicating higher general satisfaction with their choice were more likely to have had their overall expectations met and were more likely to recommend both the chosen carpet and the retailer to others.

Significant correlations also existed between the composite index of satisfaction and all of the indirect measures of postpurchase satisfaction (Table 1). These correlations were far from perfect, however, lending support to Hawes and Arndt's (1979) belief that a multiple measure approach holds more promise than a single global indicator of consumer satisfaction, especially for a complex product like carpet. This belief is also supported by the fact that the general satisfaction mean score was higher than the composite index of satisfaction mean score.

The positive correlation between satisfaction and intention to recommend the carpet/retailer corresponds to the findings of Anderson, Engledow, and Becker (1979) that there was a positive relationship between the constructs attitude toward business and product satisfaction. Engel et al. (1986) believe the key to satisfaction is confirmation of expectation. The positive correlations between postpurchase expectation confirmation and both general carpet satisfaction and the composite index of satisfaction support this belief.

Extent of prepurchase search and postpurchase satisfaction. Pearson's coefficient of correlation was used to test null hypothesis 1 (Table 2). The findings show a small but significant negative relationship existed between price satisfaction and the number of other carpets considered. A possible explanation is that price was one of the most important features considered and perhaps respondents watched for a price they could afford and thereby limited their choice. Hartman (1982) confirmed that many respondents assumed a certain level of durability and quality at a certain price point, chose their color, and bought their carpet. Another explanation might be that respondents who considered more carpets may have done so because they sought lower prices and were not able to find what they wanted at a low enough price. There were no significant correlations between price satisfaction and the other extent of search variables nor were there any significant correlations between the extent of search variables and any of the other individual attribute satisfactions or the composite index of satisfaction.

Table 2. Correlation Between Postpurchase Satisfaction/Dissatisfaction and Extent of Prepurchase Search

	Correlation Coefficient (*r*)				
Measure of Postpurchase Satisfaction/ Dissatisfaction	**Prepurchase Period** (*n* = 79-82)	**Number of Stores Visited** (*n* = 89-91)	**Number of Store Visits** (*n* = 89-91)	**Other Carpets Considered** (*n* = 84-87)	**Number of Information Sources** (*n* = 84-87)
General Carpet Satisfaction	.104	.070	.078	.141	.040
Price Satisfaction	.002	.051	.138	-.205*	.038
Color Satisfaction	-.090	-.056	-.045	.045	-.045
Style Satisfaction	-.005	.048	.033	-.027	-.113
Durability Satisfaction	.032	.018	.079	-.055	.034
Installation Satisfaction	-.035	.023	.014	-.087	-.134
Soil Hiding Satisfaction	-.062	-.154	-.074	.055	.149
Ease of Cleaning Satisfaction	-.098	-.158	-.102	.141	.017
Composite Index of Satisfaction	-.031	-.064	-.003	.009	.008
Expectation Confirmation	.241*	.188*	.208*	.138	.127
Intention to Recommend Carpet	.122	.047	.130	-.159	.006
Intention to Recommend Retailer	.150	.028	-.031	-.119	-.087

*$p < .05$

There were positive correlations between postpurchase expectation confirmation and the prepurchase period, the number of stores visited and the total number of store visits. Crosstabulations confirmed that the more extensive the prepurchase search overall and specifically the more time spent searching, the more stores visited and the more visits to the retailer, the greater the likelihood that the chosen carpet met the consumer's expectations. These findings confirm those of Anderson et al. (1979) and Cardozo (1965) which showed a positive relationship between information search and consumer satisfaction while most of the analyses in Table 2 are not supportive of such a relationship. There were no significant correlations between consumer intention to recommend the carpet or the retailer and the extent of prepurchase search. Thus, results show that null hypothesis 1 can be rejected only in part.

Type of information source and postpurchase satisfaction. Oneway analysis of variance was used to test null hypothesis 2a. There was a significant difference ($p < .05$) in general satisfaction among carpet buyers differing in most useful information source. A Scheffe posteriori contrast test (SPSS Inc., 1986, p. 468) showed that respondents who found carpet salespeople or booklets and pamphlets more useful were generally more satisfied with their carpet than were respondents who found advertisements in newspapers and magazines most useful. These findings correpond to those of Wilkie and Farris (1976). It is quite possible that respondents encountered more factual information from carpet salespeople, booklets and pamphlets than from newspaper and magazine advertisements. If so, these findings support the theory that informed consumers should be able to make more intelligent purchase decisions if they are provided with objective, factual information on the features of competing products (Sproles, Geistfeld, & Badenhop, 1980).

There was a significant difference ($p < .05$) in price satisfaction among buyers differing in most useful

Table 3. Differences in Postpurchase Satisfaction/Dissatisfaction Among Consumers Differing in Prepurchase Awareness, Understanding and Use of the CCI Label

Measure of Postpurchase Satisfaction/ Dissatisfaction	Awareness of Label (n = 88-91)	Understanding of Label (n = 23)[a]	Perceived Impact of Label (n = 21)[a]	Perceived Helpfulness of Label (n = 85-88)
	F Ratio	*F* Ratio	*F* Ratio	*r*
General Carpet Satisfaction	3.809*	0.040	5.675*	.238*
Price Satisfaction	0.788	0.069	1.951	.222*
Color Satisfaction	3.681*	0.196	16.928***	.366***
Style Satisfaction	2.029	0.022	1.360	.313***
Durability Satisfaction	3.083	0.423	1.425	.115
Installation Satisfaction	1.093	0.256	1.016	.292**
Soil Hiding Satisfaction	0.434	1.001	4.252*	0.48
Ease of Cleaning Satisfaction	0.851	1.555	5.231*	.254**
Composite Index of Satisfaction	0.434	0.345	4.833*	.248**
Expectation Confirmation	0.499	0.354	1.371	-.006
Intention to Recommend Carpet	0.793	0.855	2.878	.183*
Intention to Recommend Retailer	0.387	0.102	0.892	.164

[a] Only respondents who were aware of the label were included in these analyses.

*$p < .05$

**$p < .01$

***$p < .001$

information source; however, a Scheffe posteriori contrast test failed to differentiate the categories. There were no significant differences in the individual carpet attribute satisfactions, the composite index of satisfaction, postpurchase expectation confirmation or consumer intention to recommend the carpet/retailer to others among carpet buyers differing in most useful information source. Thus, the results indicate that hypothesis 2a can be rejected only in part.

The CCI program and postpurchase satisfaction. Null hypotheses 2b through 2d were tested using oneway analyses of variance while Pearson's coefficient of correlation was used to test null hypothesis 3 (Table 3). Scheffe posteriori contrast tests failed to indicate meaningful differences in general satisfaction or color satisfaction among consumers differing in prepurchase awareness of the CCI label, even though the initial analyses suggested significant differences. There were no significant differences in any of the other postpurchase satisfaction/dissatisfaction measures among consumers differing in prepurchase awareness of the CCI label, and thus for most of the measures of satisfaction, hypothesis 2b is accepted. Likewise, there was no significant difference in postpurchase satisfaction/dissatisfaction among consumers differing in prepurchase understanding of the CCI label, therefore, null hypothesis 2c was accepted.

There was a significant difference in general carpet satisfaction among consumers differing in perceived impact of the CCI label. There were also significant differences in color, soil hiding, and ease of cleaning satisfactions among consumers differing in perceived impact of the CCI label. Scheffe tests showed that those respondents who thought the CCI label affected their choice of carpet were more satisfied with their carpet in general and with the color of their carpet, the carpet's ability to hide dirt, and the ease of cleaning their carpet than were those respondents who thought the CCI label did not affect their choice. Null hypothesis 2d was rejected in part.

There were also significant but low correlations between consumer perceived helpfulness of the CCI label and each of the following postpurchase satisfaction/dissatisfaction measures: general carpet satisfaction, price satisfaction, style satisfaction, installation satisfaction, ease of cleaning satisfaction, composite index of satisfaction, and intention to recommend the carpet to others (Table 3). Null hypothesis 3 is therefore rejected in part. These findings suggest that use of the CCI label's product information (concerning performance/appearance retention) assisted respondents in making a satisfactory purchase. This finding corresponds to that of Anderson (1977).

Initial expectations and postpurchase satisfaction. Pearson correlation analysis showed no significant relationships between expected life of carpets and any of the measures of satisfaction except price satisfaction. There was a low but significant positive correlation (r = .24; p = .03) between the expected life of carpet in years and satisfaction with price. This finding at first seems to contradict the hypothesis that as expectations increase, dissatisfaction also increases (Sproles & Geistfeld, 1978). Satisfaction with the price of a carpet, however, differs from overall satisfaction with carpet and it is logical that consumers who expect a lot of wear from a carpet will tend to be more satisfied even with a higher price. Because all of the respondents expected their carpets to withstand traffic quite well, analyses on this measure are not meaningful.

Prior experience and postpurchase satisfaction. Pearson correlation analysis was used to test null hypothesis 5b. There was a small but significant negative correlation (r = -.183; p =.042) between consumer satisfaction with a previous carpet (prior experience) and postpurchase expectation confirmation. In other words, if consumers were satisfied with a previous carpet they were more likely to have their expectations disconfirmed or be dissatisfied with their most recent carpet purchase than were consumers who were dissatisfied with a previous carpet. These findings support those of LaTour and Peat (1980) and Westbrook and Newman (1978) that high levels of satisfaction with a previous product often result in more dissatisfaction with a replacement product. There were no significant correlations, however, between consumer prior experience and any of the other measures of postpurchase satisfaction/dissatisfaction. Null hypothesis 5b must be accepted with exception of the postpurchase expectation confirmation measure.

Initial satisfaction and postpurchase satisfaction. Null hypothesis 5c was tested using Pearson correlation analysis (Table 4). Initial satisfaction with carpet and initial expectation confirmation were the two measures of initial satisfaction investigated. There were significant but generally low positive correlations between initial satisfaction with carpet and all of the postpurchase satisfaction measures with the exception of style and soil hiding satisfactions and postpurchase expectation confirmation. There were also significant positive correlations between initial expectation confirmation and many of the postpurchase satisfaction measures. Thus, null hypothesis 5c is rejected in part.

Crosstabulations again showed that higher initial satisfaction with the chosen carpet was associated with higher general satisfaction as well as higher satisfaction with price, color, durability, installation, and cleaning. As well, respondents with higher initial satisfaction were still more likely to recommend both the carpet and retailer to others. There were a few consumers whose initial satisfaction was very high and who scored quite low on several of the postpurchase satisfaction measures. Thus, even after only 8 months, satisfaction level can change for some consumers. The few consumers whose level of satisfaction changed, and the lack of significant correlation between initial expectation confirmation and post-purchase expectation confirmation provide some justification for longitudinal research in the field of consumer satisfaction as do the generally low correlation coefficients in this set of data. Although initial satisfaction is somewhat indicative of longer term satisfaction, it does not give the complete picture.

Conclusions and Recommendations
The first objective was to determine the incidence and type of carpet problems encountered approximately 8 months after purchase, especially those related to inappropriate selection and placement of carpet. It is concluded that although there are some incidents of inappropriate selection and placement, the most frequent problems concerned quality of workmanship (installation).

Objective two, to develop a measure of postpurchase satisfaction/dissatisfaction with carpet was met. Principal components analysis and a test of reliability for the composite index of satisfaction suggest it was one appropriate measure. The findings, however, suggest a multiple measure approach is more useful than a single global indicator of satisfaction. The theory that expectation confirmation is a measure of satisfaction was supported. The results also suggest that the timing of satisfaction measurement is important. Initial satisfaction with carpet does not wholly correpond to satisfaction after approximately 8 months.

The third objective was to investigate the relationship between postpurchase satisfaction and prepurchase behavior and this was accomplished in part. The more extensive the prepurchase search undertaken, the greater likelihood the respondents' choice met or exceeded their expectations. The findings also lend support to the theory that informed consumers make more intelligent purchase decisions if they are presented with factual information. For those consumers who were aware of it, use of the CCI label product information assisted respondents in making a satisfactory choice.

Table 4. Correlation Between Postpurchase Satisfaction/Dissatisfaction and Respondents' Initial Satisfaction with Carpet (n = 64)[a]

	Pearson's Coefficient of Correlation (r)	
Measure of Postpurchase Satisfaction/Dissatisfaction	Initial Satisfaction	Initial Expectation Confirmation
General Satisfaction	.434***	.282*
Price Satisfaction	.559***	.300**
Color Satisfaction	.296**	.420***
Style Satisfaction	.166	.219*
Durability Satisfaction	.466***	.229*
Installation Satisfaction	.254*	.099
Soil Hiding Satisfaction	.168	.214*
Cleaning Satisfaction	.383***	.206
Composite Index of Satisfaction	.476***	.377***
Expectation Confirmation	.166	.159
Intention to Recommend Carpet	.392***	.195
Intention to Recommend Retailer	.415***	.093

[a] Initial satisfaction was not measured for several respondents whose carpet had not been installed at the time of the phase I study.
$^{*}p < .05$
$^{**}p < .01$
$^{***}p < .001$

Expectations regarding carpet performance were generally high and did not significantly affect satisfaction. One general conclusion drawn from the results was that high levels of satisfaction with a previous product often resulted in dissatisfaction with a replacement product. The finding that initial satisfaction was only partly indicative of satisfaction 8 months after purchase and the lack of correlation between initial and postpurchase expectation confirmation was justification for longitudinal research.

The Engel et al. (1986) model of a high involvement decision process served as a useful framework in developing hypotheses for this study. Further investigation with a larger sample and/or other products could yield broader generalizations and additional evidence regarding a relationship between prepurchase search and postpurchase satisfaction.

Recommendations for the industry. Installation was the major source of dissatisfaction among carpet buyers indicating that quality of workmanship was inferior. This is a market practice issue which warrants improvement. While dirt, vacuum marks and footprints showing are largely dependent upon the appropriateness of the color and style of carpet selected by consumers, carpet salespeople could better advise consumers in order to avoid or minimize these problems.

Findings of phase II indicated that use of the CCI label did assist consumers in making a satisfactory purchase. A limitation on this finding is the small proportion of respondents who were aware of the program, thus, as Hartman (1982) suggested, it is recommended that promotional effort at the consumer level be expanded to increase consumer awareness and understanding of the CCI program. Because the carpet salesperson was considered to be the most useful source of information, promotional effort on the part of CCI should be concentrated in educating salespeople about the use and benefits of the CCI labelling program. In addition, the use of booklets and pamphlets increased satisfaction, therefore, emphasis should be placed on providing such information at the point of purchase. Although CCI had produced an illustrated consumer pamphlet explaining the labelling program, it was not available in most of the stores at the time of the phase I study.

Recommendations for further research. A second follow-up study to measure satisfaction with carpet several years after purchase should be of interest. The carpet buyers in this study were not particularly transient so the respondents could possibly contribute evidence toward the importance of longitudinal research. Future investigation of complaint behavior in relation to consumer satisfaction/dissatisfaction is also suggested. Replication of this study using a larger sample and/or another complex product may provide insight toward theories of consumer satisfaction.

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Research Section

Canadian Home Economics Journal

Editorial Panel
October 1987 - October 1988
Phyllis J. Johnson, Editor

Foods and Nutrition

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Johnston, Elizabeth M.
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Whiting, Susan J.

Family, Child and Aging

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Avery, Arthur W.
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Henton, June
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Rodgers, Roy H.
White, James

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Young, W. (Consumer)

Book Reviews

If you are interested in reviewing a book, please contact the Book Review Editor, stating your area of interest. A complimentary book which may be kept will be sent to you for review.

Book Review Editor
Nancy J. Trowbridge
343 Iler Ave.,
Essex, Ont.
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Home Economics and Feminism: The Hestian Synthesis by Patricia J. Thompson, (1988) Charlottetown, P.E.I.: Home Economics Publishing Collective.

Patricia Thompson introduces her volume on the Hestian synthesis by telling us about her life experiences which led her to first discover home economics, then make a personal commitment to the field. She then shares a definition of hhme economics as a discipline of everyday life.

Thereafter, Dr. Thompson enlightens through contrasts. The juxtaposition of the Hestian System and the Hermean System sensitize the reader to differences as well as areas of interdependence. It is this latter perspective which is emphasized.

What concerns the author is the invisible nature of the Hestian System and the domininance of the Hermean System. The manifestations are familiar. Everyday roles, for example, are devalued making women persons who tend to be excluded second class citizens rather than partners in citizenship.

Part Two, Three, and Four of the volume are well illustrated and integrated with the text. Each section includes conversations which repeat the themes in familiar yet creative ways.

The last section of the Hestian Way of Knowing brings the volume full circle. The reader is encouraged to tune into their "inner voices" in order to look ahead and outward. Connected knowing is a woman's way. These connections are personal, related to content and self in the world. Dr. Thompson clearly interrelates her intersubjective world with reason. It is the empathy with others which empowers connections in meaningful living and not the formal separate procedural modes of knowledge.

Dr. Thompson's volume suggests ways in which hidden distinctions might be addressed to move the mission of the field from rhetoric to reality. Students in higher education, for example, relate to Dr. Thompson's approach. Many have never thought in wholistic ways. The Hestian synthesis engages them in thinking about themselves and the field into which they are being socialized even if they do not agree with this particular approach. For many their struggle centers around the feminist identification stressed throughout the book. Women's issues as one of the justice issues is foreign to some undergraduates.

This book is an important contribution to the literature about the field from a meaningful new perspective. If home economics is to evolve as a mature field, thoughtful discourse about home economics is essential. Making connections among what home economics was is, and should be related to what home economics believes, studies and does can lead to grounding the field in socially responsible ends.

Reviewed by:
Eleanore Vaines, PhD
School of Family and Nutritional Sciences
University of British Columbia, Vancouver

Textiles. Norma Hollen, Jane Saddler, Anna L. Langford, and Sara J. Kadolph. (1988). New York; MacMillan Publishing Co., 374 p.; $36.00.

Written as an introduction to the study of the chemical and physical properties of fibers, *Textiles* is well suited to be a textbook for basic instruction on the college level. The historical background and care instructions for each fiber provide valuable consumer information. The contents of the book give details about the fibers without reaching an advanced level of textile instruction. However, a knowledge of chemistry and physics may be helpful to the reader.

The text is divided into thirty-seven chapters, providing numerous charts, photographs, and illustrations. The study of textiles in the book begins with an introduction to the evaluation and selection of fibers and then examines each, natural and synthetic, in depth. The book also covers the various yarn and fabric constructions and finishing, dyeing, and printing of fabrica. A glossary of important terms is features in the back, along with an index.

This book is valuable to students in the areas of home economics, human ecology, or other related fields. *Textiles* would be a likely choice for instructors of basic textile courses taught on the college level. For schools and colleges of home economics in which a course in textiles is a part of the core curriculum, *Textiles* would be an appropriate textbook.

Reviewed by:
Dr. Phyllis R. Spruiell
Associate Professor
University of Montevallo

Changing Styles in Fashion — Who, What, Why by Maggie Pexton Murray. (1989). New York; Fairchild Publications, 257 pages; hardcover $18.50 U.S.

Maggie Pexton Murray introduces her text as a primer about fashion whose objective is to supply a frame of reference for understanding how apparel fashion functions, what motivates it, where it comes from, and why. With this premise in mind, she discusses the psychological and sociological aspects of fashion in her first chapter, followed by four chapters (by far the largest single focus in the book) on the history of apparel fashion in the western world. The next four chapters provide short biographies on selected French and American Designers, both past and present, their fashion contributions, and their role within their respective national apparel economies. Lastly, Ms. Murray includes a brief review of the history of textiles prior to a summation of the contents. She has made it very clear that her intent is to inspire the reader to investigate the topic further, that her text is only an overview, and she has delivered just that.

This book's strength is its contemporary focus. The discussion on current designers and the analysis of fashion trends in twentieth century Western civilization up to the present time, make it one of the few texts available whose content goes beyond 1970. The author is an educator at the Fashion Institute of Design and Merchandising in Los Angeles and has an obvious understanding of the factors surrounding apparel fashion. In *Changing Styles and Fashion — Who, What, Why* she has included a few thought provoking ideas with regard to that field of study, however there are severe shortcomings which prevent it from becoming a definitive document on its subject, and an instructional model.

One of the most disappointing aspects of this book is the shallow overview of the history of costume fashion. This section comprises almost half of the information covered, yet it is filled with generalities. As well, subjective statements such as a description of late medieval headdress as "... all unusually ugly fashions ..." (page 51), mar the efficacy of the text.

Perhaps this book would have benefited from stricter editorial direction on the whole. Maggie Pexton Murray includes many interesting historical data in her discussion, but at no point within her text is this information specifically referenced. Thus, when an intriguing description of the extravagance of Elizabeth I's court is given, the reader is unable to research the source of such rich documentation without plowing through the considerable bibliography listed at the end of the text. As any student knows, this is not good form. Such an omission, along with the inclusion of numerous incomplete sentences such as "Usually quite tailored, sporting the broadened shoulder made famous by Adrian, similar to the extended shoulder fashions of the late 1980s." (page 109), should not have passed the editor's desk.

Changing Styles in Fashion — Who, What, Why grates in one other respect — its persistent use of cliches. If potential readers are not enchanted with statements such as "... fashion marched to the beat of Paris." (page 109), frequent observations which pronounce that "Women caught the fever." (page 68) and the like, are sure to be annoying.

Nevertheless, Maggie Pexton Murray's primer on apparel fashion is a welcome addition to the growing analysis of a subject which affects all individuals across time and place, and is of special interest to students of costume fashion history.

Reviewed by:
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Meals Microwave Style: Menus and Recipes. Ellie Topp and Betty Shields. (1988). Carp, Ontario; Gai-Garet Design & Publication Ltd., 204 pages; $14.99 paperback.

Meals Microwave Style is more than just a cookbook. It is a boon to the busy cook.

The book, which is coil ring bound and only 23 x 16 cms. for easy use in the kitchen, opens with a short general section on the microwave oven; then expands into a chapter titled "The Menu Approach". Here are presented well-balanced menu plans for dinners for 4 people for 3 six-day weeks. The seventh days is set aside for eating out or leftovers. The menu plans include a detailed preparation plan with things to be done the evening before and the remainder taking at most one hour prior to serving time. These plans are followed by prepared grocery lists for each of the weeks. There is also a section of plans and menus for company or gourmet meals. Imaging turning out a dinner with crab-stuffed Cornish game hens, wild rice, vegetables, and zabaglione after work!

The rest of the book is divided into the usual cookbook categories. Each recipe is followed by per serving analysis of calories, fat, carbohydrate, cholesterol, and sodium.

Before attempting this review, I put the book to use in my own kitchen. As cook I found the book useful with virtually all the planning done for me. It was also easy to mix and match recipes to suit grocery specials and personal preferences. Recipes were interesting enough to satisfy adults but still be acceptable to my two young daughters. Work plans were realistic in their time allotment and easy to follow. In fact, my 9 year old took delight in preparing the meal (with some direction) on occasion.

I would recommend this book as a kind of holiday from planning or as a guide to planning and preparation of microwave meals generally. It could be a valuable resource in teaching meal management or provide another source of recipes for those who must keep track of calories, cholesterol, or sodium intake.

Reviewed by:
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Abstracts of Current Literature

Family and Consumer Studies

Stress and role satisfaction experienced by employed and non-employed mothers with young children.

Crockenberg, Susan B. (1988)
Lifestyles: Family and Economic Issues, 9(2), 97-110.

The number of mothers working outside the home has increased considerably over the last 25 years. Employment status is predicted to affect the amount of stress and the role satisfaction a woman experiences. The factors examined in this study were role choice, social support, stressful life events and income level. One hundred and five mothers with two-year old children participated in the study. An interview and questionnaire were used to obtain the data.

The results indicate that there are benefits to employment for mothers of young children, however this depends on the social support the mother received and whether the mother is employed by choice. Social support, role choice, employment and stressful events affect stress and role satisfaction, independently of income.

Gender differences in the definition and perception of household labor.

Shaw, Susan M., (1988)
Family Relations, 37, 333-337.

This study examined whether women and men define and experience household labor activities to be work, leisure, or a combination of both. The sample, consisting of 60 married couples, completed a 2-day time diary and interviews.

Employment status of the women had little effect on the perception of household labor. There was a substantial difference between the men and women's definition of household labor activities. Men described these activities more often as leisure than work, although they participated in these activities far less often than females and as expected, women described these activities more often as work. The men in the sample expressed a greater freedom of choice in these activities while the women found them to be more obligatory. Family counsellors may be able to use this information in dealing with marital conflicts and division of household labor.

Adolescent autonomy and parental stress

Small, Stephen A., Eastman, Gay., Cornelius, Steven. (1988)
Journal of Youth and Adolescence, 17(5) 377-391.

The relationship between parental stress and adolescent autonomy was examined in this study, involving parents with children ages 10-17. Both the parents and adolescents completed questionnaires. The mothers and fathers experienced equal amounts of stress, regardless of whether their children were girls or boys. Parents of first born children reported significantly more stress than those with later born children. Although there was no difference in the overall stress experienced by the mothers and fathers, they were stressed by different factors. A significant predictor of parental stress for fathers is nonadherence to parental advice and involvement in deviant activities. For mothers, a desire for autonomy was a predictor of stress. The one autonomy variable that was not related to parental stress was emotional detachment.

Prescription drugs and the elderly in B.C.

Tuomine, Jean D. (1988)
Canadian Journal on Aging, 7(3) 174-182.

This Canadian study investigates the use of prescription drugs by the elderly, age 65 and older. The data used was from the B.C. Pharmacare records of 1984, representing all the drugs prescribed for 2 groups: those who live in the community and those who live in nursing homes.

The results indicate that the elderly receive a high amount of prescription drugs, particularly, those elderly living in a nursing home. The most significant figures were the drugs for the central nervous system, which were prescribed at an extremely higher rate for the elderly in the nursing homes. Such medications have the potential to cause side effects and drug interactions, which can be harmful. This is an area which required further research and investigation. The data reveals that the elderly receive a wide variety and a large number of drugs. There needs to be further investigation into the effects that the combination of drugs can have on people, especially the elderly.

Supplementary listing of articles

Initiation of sexual activity among female adolescents. Forste, Renata T., Heaton, Tim B. *Youth and Society*. (1988) 19(3), 250-268.

Costs, payments, and incentives in family planning programs: A review for developing countries. Ross, John A., Isaacs, Stephen L. *Studies in Family Planning*. (1988) 19(5), 270-283.

The delivery of family planning services in Ontario and Quebec. Henshaw, Stanley K., Jones, Elise F. *Family Planning Perspectives*. (1988) 20(2), 80-87.

Effects of prior marriage children on adjustment in remarriage: A Canadian study. Hobart, Charles, Brown, David. *Journal of Comparative Family Studies*. (1988) 19(3), 381-396.

Voluntary childlessness: A review of the literature and a model of the childlessness decision. Rogers, Lisa Kay, Larson, Jeffry H. *Family Perspectives*. (1988) 22(1), 43-58.

A Half century of marriage: Continuity or change? Weishaus, Sylvia, Field, Dorothy. *Journal of Marriage and the Family.* (1988) 50, 763-774.

Reviewed by
Linda Zytner BA

Textiles and Clothing

Clothing construction for students of merchandising: Lecture versus laboratory.

Belleau, B.D. & Wosniak, P. (1988)
Journal of Consumer Studies and Home Economics, 12, 289-298.

There is a general shift towards specialization and away from generalization in Home Economics, particularly in fashion merchandising. Traditional methods and techniques used with the generalist approach may no longer meet the needs of students who are becoming specialists. In this study, two methods of teaching clothing construction to students of merchandising were compared using a lecture group, laboratory group, and a control group. A pretest, post-test, and attitude questionnaire were administered to the lecture and laboratory groups, with the control group only taking the pretest. The results indicate that attitudes were significantly higher in the laboratory group than in the lecture group, regardless of the amount of clothing construction experience. Implications of this study are that the lecture format of instruction is as effective as the laboratory in conveying principles of clothing construction, even through student attitude in the lecture was not as positive as in the laboratory group. The data further suggest that students majoring in merchandising do not require a skills-development laboratory in order to acquire the necessary knowledge of principles of clothing construction.

Instructor's attire as a biasing factor in student's ratings of an instructor.

Chowdhary, Usha. (1988)
Clothing and Textiles Research Journal, 6(2), 17-21.

Studies of what influences the teacher-student relationship and how this may affect instruction and learning are important. The purpose of this study was to examine the influence of instructor's attire on student's evaluation of their teacher. The sample consisted of thirty one undergraduate students. The data was analyzed by executing t-test and paired t-test. One instructor taught two sections of the same course. For the experimental group the instructor wore Indian/Western attire combinations and for the control group the instructor wore Western/Western attire combinations. The findings revealed that the experimental group rated their instructor significantly lower than the control group in four out of five categories on the standard teaching evaluation instrument. The findings confirmed that dress did have an impact on students' evaluations of their instructor. The findings imply that further effort may be needed to establish credibility and rapport in the classroom situation by professors who dress differently.

The scouring of raw wool using Freon TF solvent.

Cui, K. & Gray, D.J. & Perry, R.S. & Bide, M. (1988)
Textile Chemist and Colorist, 20(10), 19-24.

Nearly 3000 million kg. of greasy wool is sheared from the world's sheep population each year. Of this mass, 30-50% consists of non-wool impurities which have to be removed. Wool scouring in large volume plant operations can create serious pollution problems, due to solvent loss. The purpose of this study was to test a small closed loop wool scouring method using Freon TF as a solvent. Freon TF was compared to eight other solvents in terms of energy efficiency, solvent losses and volume of effluent. The results show that a flow of Freon TF through a stationary bed of raw wool, in sequence with a water rinse, produced adequately clean wool. A subsequent air or steam current removed the remaining Freon TF from the material without causing significant solvent losses. The process was energy efficient and produced low volumes of effluent. In addition, the recycled and clean wool grease was obtained.

Apparel selection by employed women: A typology of information search patterns.

Shim, S. & Drake, M.F. (1988)
Clothing and Textiles Research Journal, 6(2), 1-9.

The purpose of this study was to explore the use of information search strategies used by employed women when shopping for apparel to aid further market segmentation. The study sought to identify segments of employed women who display different information search patterns when shopping for apparel and then to determine the consumer, situation, product, and market characteristics that correlate with each segment. Data was collected using a national random sample of 1034 employed women. Five factors were extracted from the questionnaire and labelled: print-orientated, audio-visual orientated, store intensive, professional advice, and pal advice searchers. Each pattern was analyzed using an F-test. It was concluded that employed females pattern of search for information when shopping for apparel were influenced by characteristics of consumer, product, and situation but not the market. By developing profiles of each search pattern, the research provides a basis for theorizing about the determinants of search strategies among apparel consumers. Consumer information is essential in the design of efficient communication among consumers, marketers and regulators.

Identification of dyes on the Hungarian coronation mantle.

Timar-Balazsy, A. & Roelofs, W. (1987)
Textile History, 18(1), 87-96.

The Hungarian Coronation Mantle was embroidered in the year 1031 by nuns under Queen Gisella's leadership. Since that time, the mantle has gone through three major reparations where layers of cloth have been added to give the mantle stability. The first reparation was in the year 1600, the second in 1820, and the third in 1867. The four main objectives of this study were: 1) to obtain insight into the original and modified colour schemes and to study the changes that have taken place over the past 900 years; 2) to determine if the fastening strap and eleven patches were part of the original chasuble; 3) to confirm the chronology of the application and sewing together of the layers, and 4) to investigate the reaction of the mantle to wet cleaning.

For the analysis of dyes, thread samples of 1-5 mm were taken. The results show that the colour of the original base was more yellowish than assumed. All threads were also dyed so that they matched the parts being assembled. Five patches were from the original chasuble. Six others and the strap were from a different source.

Analyzing the strap and the many layers, demonstrated the various dyes that were used and applied in different historical periods. This study provides valuable information for the restorer, conservationist, and historian.

Supplementary list of articles

Maternity career apparel and perceived job effectiveness. Belleau, B.D. & Miller, K.A. & Church, G.E. (1988). *Clothing and Textile Research Journal,* 6,(2), 30-37.

Fabric specialty stores: Travel behaviour of female customers. Cary, R.T. & Hatfield-Bellinger, N. (1988) *Journal of Consumer Studies and Home Economics,* 12,(3), 299-312.

Effect of clothing masculinity on perceptions of managerial traits: Does gender of the perceiver make a difference? Forsythe, S.M. (1988). *Clothing and Textile Research Journal,* 6,(2), 10-17.

Apparel sizing solutions for an aging problem. Horridge, P.E. & Woodson, E.M. (1988). *Journal of Consumer Studies and Home Economics,* 12,(3), 277-289.

Drying of sized yarns using radio frequency energy. Reed, W.M. & Perkins, W.S. (1988). *Textile Chemist and Colorist,* 20,(10), 13-19.

Reviewed by
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Graduate Student

Food and Nutrition

Bridging the hunger gap.

Raab, C.A., Holyoak, A. and Raff, L.G. (1988)
Journal of Home Economics, 80(3), 3-8.

A recent study in Oregon surveyed recipients of local emergency food services. Of the 913 respondents, 61% were female, 45% had not completed high school and 20% had some post-secondary education. Only 10% of respondents owned their own homes, while 71% were renters and 6% were homeless. Twelve percent lacked a heat source and 11% lacked indoor plumbing. Meal preparation space was lacking for 12%, while 7% had no refrigeration, 6% lacked running water and 5% lacked a cooking stove.

A smaller group of 189 respondents volunteered information on their employment situations. About 19% of households reported having one member working full time and about 15% reported part-time employment. Lack of access to child care prevented members in 21% of households from working. Nearly half of households had members looking for work. Seventy percent of households reported an annual net income of under $5,000. When asked what event made it necessary for respondents to request emergency food, 28% cited unemployment and 14% cited late public assistance payments. Of the respondents, 32% were receiving emergency food boxes for the first time and about 70% had asked for assistance three or fewer times in the past year.

The authors noted that roles of educators and advocates could be ways in which home economists could assist these "new poor". Suggested tasks to be undertaken included teaching job-seeking skills and money management skills. Advocating accessable, affordable child care services and supporting of local food banks were also noted. However, the causes of hunger must be addressed if a lasting solution is to be found.

Within month variability in use of soup kitchens in New York State.

Thompson, F.E., Taren, D.L., Anderson, E., Casella, G., Lambert, J.K.J., Campbell, C.C., Frongillo, E.A. and Spicer, D. (1988)
American Journal of Public Health, 78, 1298-1301.

The New York State Nutrition Surveillance Program studied the variation throughout the month in use of soup kitchens over a 12 month period in both New York City and Upstate New York. The data presented excluded the months of May, November and December since these months all had holidays in the latter weeks which affected meal service patterns. Results showed that when Week 4 and Week 1 were compared, the number of meals served was 43% higher at month end for Upstate kitchens and 14% higher for New York City. These results were consistent with the differences in public assistance distribution. In Upstate New York, public assistance was distributed in the first and third weeks and in New York City distribution is staggered throughout the month. Thus, the cyclical pattern of soup kitchen use is much stronger in Upstate than in New York City.

The authors called for further research into the reasons for dependence on emergency food relief to assist in outlining public and private roles in the provision of food assistance.

Parent involvement with children's health promotion: The Minnesota home team.

Perry, C.L., Luepker, R.V., Murray, D.M., Kurth, C., Mullis, R., Crockett, S. and Jacobs, Jr., D.R. (1988)
American Journal of Public Health, 78, 1156-1160.

To compare the efficacy of a school-based program to a home-based program, this study measured changes in fat and sodium consumption with 2250 third grade students in 31 urban Minnesota schools. The school-based nutrition education program, Healthy Heart, was a 5-week curriculum taught by classroom teachers. The program emphasized differentiation between "everyday" and "sometimes" foods, food selection, preparation skills, and goal setting with reinforcement. The Home Team program was a 5-week correspondence course involving students and parents. The Home Team was equivalent in content and exposure time to the Healthy Heart program. Outcome measures were taken by a trained team both at school and in the home. These included anthropometric measures, completion of a psychosocial and behavioral questionnaire, dietary recall, food shelf inventories, and urinary sodium data. Higher questionnaire scores were associated with healthy behavior, greater skills and accurate knowledge.

Participation rates were high with 86% of parents participating in at least one week of the Home Team program and 71% completing the program. Students in the school-based program gained more knowledge by program end than did home-based students. These latter did report greater behavior changes having reduced fat intakes and increased purchase of encouraged foods. These results suggest that while classroom programs can be effective in providing necessary background knowledge, parent involvement enhances behavioral change. Ideally the two types of programs should be designed to be complimentary.

Clinical applications of fish oils.

Yetiv, J.Z. (1988)
Journal of the American Medical Association, 260, 665-670.

Ever since it was proposed that the Eskimo diet, one high in seafood, was a link to the lowered incidence of cardiovascular diseases, fish oils have received much attention. The two omega-3 fatty acids of interest are eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). The author of this article discussed possible future indications for fish oil supplement use.

The use of fish oils to prevent heart disease has been suggested as they seem to decrease serum lipid levels, especially for triglycerides. As well, platelet function is affected causing prolonged bleeding times through an inhibited clotting mechanism. While this may be of clinical significance, it is not always a desired side-effect. It appears that omega-3 fatty acids may also decrease blood pressure. Several studies have investigated the influence of fish oils on conditions such as rheumatoid arthritis and lupus-like autoimmune nephritis. Unfortunately, these studies with mice may not apply to human forms of the diseases.

At the dosage levels used in many studies, fish oils must be thought of as drugs and not as dietary supplements. Taking fish oil supplements is not without its side effects. The supplements can be expensive and can add unwanted energy (calories) to the diet. Large doses of cod or halibut liver oils can result in toxic intakes of vitamins A and D. Finally, the extended bleeding time may become a problem in an accident situation.

At present, there is an absence of definitive data to support the use of fish oil supplements. However, two to three fish meals per week seems a reasonable alternative. Ideally the fish should replace a higher fat protein food and should be prepared in a way which preserves its low-fat nature.

Trends in food packaging.

Ott, D.B. (1988)
Journal of Home Economics, 80(3), 36-43.

Recent advances in food packaging, processing and preservation techniques are discussed in this article. High barrier plastics such as rigid, coextruded plastic containers are presently used widely in the marketplace. Multi-layered coextruded bottles contain products such as ketchup, salad dressings and barbeque sauces. These containers withstand hot filling, are shatter and tamper resistant, weigh less than glass and extend shelf-life. Aseptic processing and packaging has lead to many new products, especially in the high-acid juice beverage market. These brick-style cartons cost less than glass or metal, have an increased shelf stability and maintain product quality without refrigeration. In addition, single-serving packages are convenient and portable.

Dual-ovenable packaging, which can be used in conventional or microwave ovens, is one of the latest areas of package growth in the marketplace. Aluminum foil trays can be coated so that they can be used in microwave ovens. Many frozen entrées are packaged in crystallized polyester trays. Consumers enjoy the reusability of such trays and perceive the foods contained in such packages as being higher in quality. As well, some of these trays have anti-stick surfaces and temperature control of the tray.

The author concluded with a discussion of future packaging trends and the ecological impacts of plastic packaging. The latter includes interesting viewpoints regarding biodegradation and photodegradation of waste products.

Supplementary listing of articles

Literate and semi-literate audiences: Tips for effective teaching. Smith, S.B. and Alford, B.J. (1988). *Journal of Nutrition Education*, 20, 238B-238C.

Do low levels of iron affect body's ability to regulate temperature, experience cold? Kirn, T.F. (1988). *Journal of the American Medical Association*, 260, 607.

Nutrition education for coaches and athletes: Implications for home economics. Tuck, M.B. (1988). *Illinois Teacher of Home Economics*, 32(2), 57-58.

Cross-sectional study of nutrition knowledge and attitudes of medical students at three points in their medical training at 11 southeastern medical schools. Weinsier, R.L., Boker, J.R., Morgan, S.L., Feldman, E.B., Moinuddin, J.F., Mamil, J.J., DiGirolamo, M., Borum, P.R., Read, M.S. and Brooks, C.M. (1988). *American Journal of Clinical Nutrition*, 48, 1-6.

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Submitted by
Laurie A. Wadsworth, MSc

New Developments

Compiled by Ann Scott

. . . In Ideas

Alcohol Consumption During Pregnancy

Since the early 70s it has been well-documented that alcohol consumption during pregnancy can adversely affect development of the fetus. In the Winter 1985 issue of *In Touch*, the congenital anomalies associated with fetal alcohol syndrome (FAS) such as pre and postnatal growth retardation, developmental delay with persistent mental retardation, and neuropsychiatric symptoms were described. Classical FAS is associated with heavy consumption of alcohol during pregnancy. These effects of heavy alcohol intake on pregnancy outcome are not reversible, as infants born of alcoholic mothers do not demonstrate postnatal catch-up growth and the developmental problems appear to be permanent. However, even heavy drinkers can produce healthy infants by discontinuing alcohol consumption before conception, meaning that the alcohol must be consumed during the pregnancy to result in fetal anomalies. But how much, or how little alcohol is damaging to the fetus are currently unresolved issues.

In a study of over 32,000 pregnancies by Mills and Graubard (1984), women who consumed at least one to two drinks each day substantially increased their chances of producing a growth-regarded infant.

The occasional drink has been shown to have only a trivial effect on intrauterine growth. 'Crude' mean birth weights of babies born to mothers consuming less than one drink each day was shown to be the same as that of babies born to non-drinkers. However, animal models which have been used to clarify this issue show that occasional drinkers are not completely eliminating the risk to their fetus. Thus while mothers consuming less than one drink each day are not at any significant risk of producing a growth-retarded infant, other risks to the fetus are possible.

Further analysis of the data collected by Mills and Graubard involved determining the level of alcohol consumption necessary to increase the risk of congenital anomalies. From the population of 32,870 conceptuses, alcohol consumption during the first trimester was investigated prospectively and pregnancy outcome determined. Less than one half of the mothers surveyed indicated any alcohol use and of those who reported drinking, 94 per cent consumed an average of less than one drink per day. These data alone indicate that most mothers do limit their alcohol intake during pregnancy to the level which provides little risk for growth retardation.

Results showed that light and moderate drinkers (those who drank two or fewer drinks per day) had no greater rate of fetal malformations than the non-drinkers. Total fetal malformation rates did not increase significantly with increasing alcohol consumption. However, when malformations were evaluated by organ systems, increasing alcohol consumption was associated with significant increase in congenital malformations of the sex organs and the genitourinary system. Malformation rates in other organ systems showed no significant trends.

The question of 'how much alcohol is too much during pregnancy' remains unanswered. While the amount of alcohol consumed by most women during pregnancy does not appear to be a significant cause of congenital malformations in our society, there is evidence linking consumption of large amounts of alcohol with FAS and even moderate alcohol consumption is linked with intrauterine growth retardation. Lesser amounts of alcohol may induce abnormal organ growth or metabolic responses and possibly other yet to be identified physiologic problems in the fetus. Consequently, researchers remain conservative in their recommendations to pregnant women; it is best to refrain from drinking alcoholic beverages during pregnancy to ensure the delivery of a healthy term infant.

Excerpts taken from: How Much Alcohol During Pregnancy Is Too Much? (1988). *In-Touch, 6*(IV)

Researcher Warns About Peroxidation

The current interest in fish oils for the prevention of heart disease and the treatment of inflammatory conditions such as arthritis, has generated renewed interest in cod liver oil as a nutritional supplement. But when coupled with the trend towards "natural source", preservative-free pharmaceutical products, consumers who self-medicate may be risking exposure to potentially toxic by-products of fatty acid breakdown.

Dr. Leonard Piche, a nutrition researcher at the University of Guelph, found an increase in the amount of malondialdehyde excreted in the urine by people who had been taking liquid cod liver oil. "Malondialdehyde is a degradation product that forms in the body as a result of fatty acid peroxidation. It's a mutagen and known carcinogen. It's presence in the urine increases after eating rancid foods."

Among the beneficial components in fish oil are highly unsaturated fatty acids (HUFA), with the key ones being omega-3 fatty acids. However, because these fatty acids are highly unsaturated, they are unstable. When they are exposed to oxygen they undergo peroxidative changes which result in the formation of degradation products, such as malondialdehyde.

In Piche's research study, when six adults consumed 30 ml of cod liver oil (10 ml with each meal) for a period of 14 days, the malondialdehyde levels in their urine increased by

37 per cent. This occured even though the liquid cod liver oil was refrigerated.

But when the subjects consumed the same amount of omega-3 fatty acids in the form of gelatin-coated MaxEPA softgels, there was no increase in malondialdehyde excretion, even after 50 days.

Piche suggests that the softgel coating can protect the unsaturated fatty acids from light and thus reduce peroxidative changes.

At the present time, MaxEPA softgels, manufactured by R.P. Scherer Canada Inc. in Windsor, Ontario, cannot be sold in Canada. Only small quantities are available to researchers and doctors through the emergency drug release program.

Source: News Release (1988, October). R.P. Scherer Canada Inc., 1370 Argyle Road, P.O. Box 2370, Windsor, Ontario N8Y 4S2. (519) 253-2405.

Note: See Literature abstracts Yetiv, J.Z., for more information on this topic.

Recent Developments in Life Insurance

Bill McLeod, author of *The Canadian Buyer's Guide to Life Insurance* (1988), suggests that individual life insurance should be re-evaluated since life insurance rates have been dropping in recent years.

Most policies are either term or cash value insurance. Term insurance, similar to fire or car insurance, covers a person for a specific period of time or to a specific age. A premium is paid and in the event of your death during the period for which you have coverage, your beneficiary will get the money. Since term insurance has no savings or investment features, it costs much less.

Cash value insurance, often called whole life or permanent insurance, was designed to cover the insured until death. This policy has two options. If you leave it in place until your death, your beneficiary will collect a death benefit. If it cashed before you die, you may collect the cash surrender value that has accumulated over the years.

McLeod suggests that cash value insurance should be avoided since it is expensive and is not a good investment. The rate of return on the savings portion is very low. A recent Canadian survey revealed that the cash value return varied from less than one per cent to a high of about three per cent. Also the beneficiaries forfeit the savings component to the insurance company.

Term insurance is popular because it is less complicated and expensive than cash value insurance. In recent years, term insurance rates have been dropping and the policies have become more attractive. With the increased competition, the consumer should consider various package deals including rates and periods of transition carefully before making a commitment.

Source: McLeod, Bill (1988). A Life Insurance Check-Up. *1989 Money Guide, Canadian Consumer Magazine, 18*(9).

... Trends

National Child Care Survey

Professor Donna Lero, Department of Family Studies at the University of Guelph, is heading a $1.2 million, three-year research project on child care for Health and Welfare Canada. The research team also includes co-director Alan Pence, University of Victoria, Hillel Goelman, University of British Columbia, and Lois Brockman, University of Manitoba. The team are among the founders of the National Day Care Research Network.

This national child-care survey will involve interviews with more than 33,000 families concerning child-care needs and preferences, child-care methods they now use, and family situations and employment factors that affect child care.

The need for a study of this scope has long been recognized, says Professor Lero. Recommendations appear in the 1986 report of the Liberal government's task force on child care and the 1987 report of the special parliamentary committee on child care.

The researchers are adament, however, that their national survey should not be accepted as a substitute for government action. "We've never said funding for day care should wait until the results of our study are known," says Professor Lero. "Government funding should be provided where services are obviously needed, but it is clear we need a better understanding of long-term needs in child care."

Professor Lero estimates 80 per cent of children in day care are cared for by people who have no formal training and are not regulated by a provincial government. Although many of these arrangements may be good ones, she says, there is no quality control.

Tension created by child-care problems affects family life and job performance. Poor quality care can result in conflict between parents and babysitters and between the parents themselves. Unstable child-care arrangements can lead to absenteeism, interrupted career plans and carelessness on the job due to worry — indicators of the social and employment costs of inadequate day care.

The national child-care survey will be one of the most comprehensive studies ever completed in Canada. The large sample size is required to obtain adequate numbers of families with infants, preschoolers and school-age children. Child-care services and needs vary greatly across these age groups. The survey must also ensure adequate comparisons across rural and urban communities, income groups, parents' employment patterns, and single and two-parent families. It will study patterns of neighbourhood support and child-care needs of parents who do not work outside the home.

Because child-care services fall under provincial jurisdiction, the study must provide a representative sample from each province to ensure reliable provincial, as well as national, estimates and comparisons.

Interviews will be conducted by Statistics Canada staff in English and French.

Source: Excerpts taken from Dickieson, Mary (1988, Fall). Family Studies Professor Heads National Child Care Study. *University of Guelph Alumnus, 21*(4).

Workplace Hazardous Materials

Workplace Hazardous Materials Information System (WHMIS) implemented the Fall of 1988 will ensure that information concerning controlled products will be available to the worker.

This system parallels the United States Hazard Communication Standard with which it has three basic elements in common: labels, Material Safety Data Sheets (MSDSs) and worker training. But WHMIS differs in important respects.

It classifies chemicals in categories, a process that requires professional judgement. In this way, the Canadian Centre for Occupational Health and Safety is storing scientific judgement for the benefit of all.

In the implementation of WHMIS, the Centre carries out several functions such as helping people understand and cope with WHMIS by supplying information, storing classification in CHEMINFO and eventually the Transportation of Dangerous Goods (TDG) data base, providing publications such as *At the Centre* for education and training and maintaining a national inventory of MSDS's and Trade Names.

Source: What the Centre Offers: WHMIS (1988, October). *At the Centre, XI*(3).

... Products

Light Bread Introduced

In our grandmother's day bread making was considered one of the greatest of the domestic arts, and bread, often referred to as "the staff of life" was an integral part of every diet. The hearty product of those days was made from unrefined, hard-milled flour and provided a tasty, wholesome goodness, we now recognize as so important in food products.

Over the decades, bread entered the era of food processing. The benefits of this new process ranges from providing greater convenience and more consistent quality, to improving freshness.

In the 70s and 80s we have seen a rebirth of "healthy food" and an increased consumer demand for good tasting, nutritious products. Whole wheat and whole grain breads are becoming more popular and flour enriched with vitamins and minerals has been added to white breads to enhance the nutrition benefits.

The "back to basics" philosophy continues today. Consumers, more than ever are seeking wholesome and nutritious benefits in the food they buy. This growing trend fuelled by a growing consumer concern over diet and fewer calories has lead to exciting developments in the bread category.

Responding to consumer demand for healthier, calorie-reduced products, Wonder Light white bread has been developed. This new bread contains 33% fewer calories than regular white bread on an equivalent 100 gram basis or just 30 calories per slice.

A portion of the wheat flour is replaced with pea fiber, which is higher in dietary fiber and indigestible therefore significantly lower in calories than wheat flour. In addition to fewer calories, Wonder Light contains three times the dietary fiber found in regular white bread and twice that found in wheat bread.

To obtain: A copy of the Wonder Light sandwich brochure, write to Wonder Light Sandwiches, 20 Eglinton Avenue, West, Box 2040, Toronto, Ontario M4R 1K8.

New Applesauce Products

Catelli has introduced a new snack called Applesnax. Fresh fruit is aseptically processed and packaged in shelf stable, single serve packages. These homestyle portable snacks are available in the traditional apple flavor as well as Apple Strawberry, Apple Raspberry, Apple Peach and Apple Tropical. They are sold in multipaks of four individual 125 gram servings and are available in the dessert section of most grocery stores.

For more information: Contact Francoise Emard, Catelli Inc., 6555 Northwest Drive, Mississauga, Ontario L4V 1K2. (416) 673-5080.

Gluten-Free Bread

Allergy to wheat and related grains is one of the most common food allergies in Canada according to the Allergy Information Association. It is conservatively estimated that one in seven Canadians suffers from food allergies. Of these, it is estimated that nearly half suffer from an allergy to wheat.

Celiac disease, an intolerance to the protein in wheat and some other grains, affects about one in three thousand Canadians. For the thousands of Canadians affected by these problems, bread is forbidden. Any break from their limited diets brings on symptoms ranging from the uncomfortable to the severe.

Now on the market is Kingsmill Rice Bread which will help to expand the limited diets of these sufferers. The new bread is made with rice and potato flours. This means that it is safe for those with an allergy or intolerance to wheat products. It is also free of some other very common food allergens including milk, dairy products, corn, egg, and soya. This bread does have the same nutritional values as regular bread.

For more information: Contact Gordon Allen, Kingsmill Foods Company Limited, 1399 Kennedy Road, Unit 17, Scarborough, Ontario M1P 2L6. (416) 755-1124.

... Publications

Food First Books

The Institute for Food and Development Policy has been credited with playing a key role in changing the global debate on the causes of and solutions to world hunger.

A variety of publications have been produced by Food First focusing on issues of food and justice around the world, questioning programs and examining policies, exploding myths and unveiling facts.

A journal series, Food First Development Reports, is also available separately or by subscription. Each report deals with a single issue and explores it in depth.

For resource list: Write to Food First Books, 145 Ninth Street, San Francisco, CA 94103. (415) 864-8555.

Kit on Food and Culture

Nutrition, Food and Culture consists of ten full-color study prints, a Teacher's Guide, nine reproducible reference sheets, and four activity sheets. The materials examine the food habits, traditions, and agricultural practices of eight cultures and relate them to a study of basic nutrition.

The lesson plans are designed to show how social and physical environments influence food choices. Each lesson includes one or more major activities and at least one extension activity. Two kitchen-tested recipes are provided for each country represented in the set.

While the kit is designed for students in the middle grades and makes comparisons with U.S. agriculture, it can be easily adapted for senior level students in Canada.

The kit may be borrowed from CHEA or purchased for approximately $15.

To purchase: Write to National Livestock and Meat Board, Education Department, 444 N. Michigan Ave., Chicago, Illinois, U.S.A. 60611.

World Food Issues

A resource for discussion and exploration into world food issues, *Enough for All*, is designed for the elementary level, grades 4, 5, and 6. It uses examples from Canada and developing countries to explore key issues: what food is and where it comes from, how it has shaped culture in different parts of the world, the economy of food, and the concepts of scarcity and plenty.

The unit includes a series of 29 frames (in slides or filmstrip), an illustrated 20-page teacher's guide, accompanied by a colorful 24″ x 16″ teaching poster and discussion guide. In the teacher's guide, the script is supplemented by questions for discussion, suggestions for related activities, and additional information for the teacher.

The kit with slides, available in English or French, may be borrowed from CHEA or purchased for $15 (filmstrip) or $45 (slide set).

To purchase: Write The World Food Day Association, 255 Argyle Avenue, Ottawa, Ontario K2P 1B8.

Facts on Sugar

Two brochures have recently been produced by the Canadian Sugar Institute.

Sugar: Fact and Fiction addresses consumer concerns about sugar consumption, the use of sugar in food processing and allegations that sugar causes disease.

Sugar and Health: An Overview is a summary of the Report of the U.S. Food and Drug Administration Sugars Task Force that reviewed over 1000 scientific papers on sugar's role in health and disease.

Write to: Canadian Sugar Institute, 7 King Street, East, Suite 1904, Toronto, Ontario M5C 1A2. (416) 368-8091.

1989 Toy Report

The Canadian Toy Testing Council has released the new 1989 *Toy Report*, a valuable source of consumer information for the next year. This guide, containing descriptive, analytical comments on over 1500 toys, will assist consumers in matching the age, interests and ability of each child in their lives with the toys that can deliver the best in play value for dollars spent.

The 1989 *Toy Report* is an easy-to-read magazine format, is now available at newsstands across the country.

To order: Call the Council's toll free number 1-800-267-TOYS or send $5.95 plus $2.00 postage and handling to the Canadian Toy Testing Council, 881 Lady Ellen Place, Ottawa, Ontario K1Z 5L3.

Teaching Money Management

A 52-page booklet, *Your Guide for Teaching Money Management*, is now available from the Money Management Institute of Household Financial Services.

This guide of seven key concepts: values and goals, income and employment, money management, financial products and services, credit, insurance, and savings and investments includes generalizations, classroom objectives, learning activities, terms to know, and an annotated list of suggested resources.

In addition, the guide tells how to use an interdisciplinary approach to your best advantage, what community resources could be incorporated, and how to adapt materials to groups of different ages and abilities.

Questionnaires, case studies, research projects, and bulletin board ideas are included to provide more meaningful learning experiences.

To obtain a copy: Send a cheque or money order for $2.00 to the Money Management Institute, Household Financial Services of Canada, 85 Bloor Street East, Toronto, Ontario M4W 1B4.

Microwave Beef

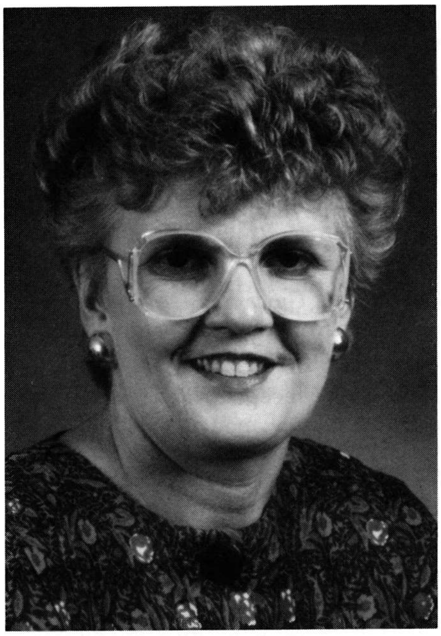
According to Statistics Canada, 53.8 per cent of households are now equipped with microwave ovens for speedy preparations and minimal cleanups. However many cooks still hesitate to microwave beef.

Barb Holland, freelance home economist and microwave specialist, has worked as a consultant with the Beef Information Centre in developing the booklet *Microwave Beef*.

"Beef should not be overcooked", cautioned Holland. "Using a reduced power level allows beef to develop flavor without toughening."

As a general rule, the Beef Information Centre recommends microwaving roasts at Medium Low (30%), beef strips at Medium (50%) and ground beef at High (100%).

For a copy: Write to Beef Information Centre, 590 Keele Street, Suite 422, Toronto, Ontario M6N 3E3.



On the Job

Profile of Betty Shields A Home Economist as a Successful Businesswoman

The new microwave technology of the early 1970s inspired Betty's entrepreneurial instincts, and her degrees in Home Economics and Education gave her the necessary formal education to feel secure in setting up her own business in the Ottawa region.

Betty is the major shareholder of Betty's Kitchen Ltd., a family owned business. All the members of the Shields clan are involved in the business and were therefore very proud to celebrate the 10th anniversary of Betty's Kitchen on November 5th, 1988.

The growth of Betty's Kitchen over the past ten years has been a remarkable success story. Because of her knowledge of microwaves and her experience as a teacher, Betty was able to create a unique retail proposition. In order to break through the mystery of microwaving, customers buying their microwaves from Betty's Kitchen are given free classes of instruction.

Betty's goal is not only to sell her customers what is most functional but also to educate them on how to use their appliances to the fullest potential. Her interest and understanding of foods has been instrumental in helping to buy and promote all products with this goal in mind.

Each of the three Betty's Kitchen locations operates as a boutique and cooking school, specializing in sales and instruction of microwave ovens and food processors.

Betty's Kitchen Ltd. has had the highest sales of any independent Panasonic microwave dealer in Canada for which Betty received a Special VIP Dealer Award from Matsushita Electric in Japan. Betty's boutique carries the largest selection of Cuisinart accessories in Ottawa, and her cooking school is the largest independent operation of its kind in the area.

The continued growth of Betty's business was recognized in October 1988 when the Retail Sales Council of Canada gave special recognition to Betty's Kitchen in a Marketing Recognition Award.

As business grew, Betty's role has changed. While she still does the major buying, staff coordination, managing and financial controlling, Betty spends much more of her time networking and promoting. Furthermore, she has conscientiously decided to devote 30% of her time to the community.

In 1987, Betty produced the microwave cookbook "Capital Cooks", a collection of recipes from Ottawa area cooks and celebrities. All the proceeds from the sale of the book went to the Ottawa Food Bank.

Much of Betty's time outside the store has lately been donated to the Ottawa Women's Business Network to which she has recently been elected President. Betty is also a member of the Ottawa Executive Association, the Citizen's Advisory Committee to the Salvation Army, the Canadian Home Economics Association, the International Microwave Power Institute and the International Association of Cooking Professionals.

The cookbook "Meals Microwave Style" is Betty's latest exciting project. It was co-written with Ellie Topp, Betty's Kitchen Cooking School Director and former Secretary of the CHEA.

Here again her aim has been unique. Not only are all the recipes nutrient analyzed, but "Meals Microwave Style" is the only Canadian microwave cookbook written under the menu concept. It also provides shopping lists for the weekly menus in order to save you even more time.

After devoting up to 60 hours a week to a business and countless hours to numerous associations, do we dare ask the Shields family if Betty has time to cook at home! □

Betty Shields received a degree in Home Economics and Education from the University of Saskatchewan. She is a member of the Ottawa Executive Association, the Citizen's Advisory Committee for the Salvation Army, the Canadian Home Economics Association, the International Microwave Power Institute, the International Association of Cooking Professionals and President of the Ottawa Women's Business Network Association. Betty is the President and co-owner of Betty's Kitchen Ltd.

Guide for Authors

Canadian Home Economics Journal

Contributions to the Journal

The *Journal* welcomes articles from home economists and others who share their interest in promoting the well-being of individuals and families. Papers related to social issues affecting the home economics profession and professional practice, or providing information about professional subject fields are of particular interest. Themes and submission deadlines are printed periodically in the *Journal.* Authors are encouraged to submit articles related to the themes but should not feel bound by this directive.

Depending on the nature of the paper, authors may make their submissions to either the general interest articles or to the research (refereed) section.

Contributions that will be considered for inclusion in the research section are: reports about empirical research, review papers related to topics of current interest, research notes on particular issues, or theoretical forums related to theory development in an area of interest to home economists.

Manuscripts in English and/or French are welcome. Submission of a paper to the *Journal* implies that the paper is original and has not been published or currently submitted for publication elsewhere. If copyright material is used, it is the responsibility of the author to give appropriate credit and to obtain permission for reproduction. The original copy of the written permission must accompany the submission. Manuscripts not conforming to the stated guidelines will be returned to the author(s) without consideration.

Manuscripts accepted for publication, are edited to ensure conformity to *Journal* standards. If extensive editing is required the author(s) will be consulted.

Authors are asked to transfer copyright to the Canadian Home Economics Association by signing a Copyright and Licence-to-Use form. This process facilitates arrangements with indexing and abstracting services, and protects the rights of the author and the publisher.

Disponible en français auprès de la rédactrice

Criteria for Acceptance

Research (Refereed) Section

The goal of this section of the *Journal* is to provide researchers concerned with the well-being of families and individuals an opportunity to publish in a refereed Canadian journal. An author's submission of a research paper implies that the paper is based on original research and not published elsewhere. All articles are submitted for external review. The criteria used include:

- Focus on a significant problem in home economics.
- Scholarly report of new knowledge, confirmation or refinement of known facts, presentation of a critical review of literature, development of a theoretical framework, etc.
- Logical interpretation of data.
- In the case of empirical research, evidence of sound research methodology in the conduct of the research.
- Well organized and written in a scholarly style.
- Form and length which makes publishing feasible.
- Length limited to 2,000 to 3,000 words excluding references which may be as extensive as required.

General Interest Articles/ Letters to the Editor (Reader Forum)

All manuscripts are read by the editors and many are submitted to external reviewers. Criteria for acceptance include:

- Content that is original, addresses current topics, provides fresh insights, or new information.
- Clear, concise, logical presentation that will appeal to a constituent group of CHEA.
- Appropriate documentation of sources and conformity to the style guides adopted for the *Journal.*
- Manuscripts for articles limited to 1,500 to 2,500 words and letters to the editor to 300 words.

Preparation of the Manuscript

References for style, format, and spelling are:

- American Psychological Association. (1983). *Publication Manual of the American Psychological Association* (3rd ed.). Washington, DC: Author.
- Strunk, W., Jr., & White, E.B. (1979). *The Elements of Style* (3rd ed.). New York: Macmillan.
- *Gage Canadian Dictionary*

The submission should include the following sections: title page, abstract, text of the manuscript, references, tables (one per page), figures and other graphics (one per page), titles for figures and graphics (on a separate page), acknowledgements (on a separate page).

In preparing the manuscript adherence to the following details will speed consideration of the manuscript.

Title Page

Because papers are or may be submitted anonymously to reviewers, the following information should appear only on the title page:

- Title of paper—be concise.
- A short biography, including as a minimum, name and present position of author(s); degrees held (including granting institution).
- For research papers, give the institution at which research was conducted and date of execution.
- Name, phone number, and address of author to whom correspondence about the paper should be addressed.

Abstract

The abstract page follows the title page and starts with the complete title of the paper but does not contain the name(s) of the author(s). It should be:

- A concise summary of not more than 150 words that stands on its own.
- Submitted in both English and French. (If the abstract is submitted in only one language, arrangements for translation will be made by the editors).

Text of the Manuscript

The author is fully responsible for correct sentence structure, good English/French, and accurate spelling. In order to ensure that the paper will be understandable to all readers, it should contain a minimum of specialized language.

Style, organization, and format. Scholarly presentation of the material is the responsibility of the author(s). Organize material in a logical sequence, incorporate sub-headings, and, in the case of research or theoretical articles, give enough details of techniques so that other readers can clearly understand the author's ideas or execution of the research. Avoid repetition of ideas in the paper.

- Begin the text of the manuscript on a separate page with at least a 3–cm margin on all sides.
- Number each page on the top right-hand corner.
- Number the lines of type on each page in the left margin.
- Type double-spaced on one side of the paper.
- Limit the length of manuscripts as indicated in the criteria for each section.

Citations. Citations in the body of the article should be by author's surname, date, and pages cited when reference is made to the work of others either by a direct or indirect quotation. The following examples illustrate the required format.

> Campbell and MacFadyen (1984) cautioned . . .
> Fetterman (1984) stated: "The inventory . . ." (p. 18)
> Research (Buskirk, 1981; Serfass, 1982) indicates . . ."

Where reference is made to an article by more than two authors, the first time it appears all names must be listed. In any further reference, use the first listed author and et al. For example:

> First reference: Bob, Pringle, and Rijan (1969) reported that . . . ; in any further reference use the format: Bob et al. (1969) favor diets . . .

References

All work cited in the paper must be given in a list of references at the end of the paper. Works that are not cited should not be listed. References are typed on a separate page, double-spaced throughout, alphabetized by first author's surname with paragraph indentation used for the second and successive lines. Several references by the same author are arranged by year of publication. The following examples illustrate APA style. (Note the use of lower case in the titles.)

- **Book**
  Fremes, R., & Sabry, Z. (1981). *NutriScore: The rate yourself plan for better nutrition.* Toronto: Methuen.
- **Journal article** (do not abbreviate journal names). Nostedt, E.M. (1984). Networking. *Canadian Home Economics Journal, 34*(3), 130-132.
- **Article or chapter in an edited book**
  Gurman, A.S., & Kniskern, D.P. (1981). Family therapy outcome research: Knowns and unknowns. In A.S. Gurman & D.P. Kniskern (Eds.), *Handbook of family therapy* (pp. 742-775). New York: Brunner/Mazel.
- **Government report**
  Bureau of Nutrition Research. (1983). *Recommended nutrient intakes for Canadians* (4th ed.). Ottawa: Health and Welfare Canada.

Tables

Tables should be kept to a minimum and used only when they add value to the paper. Type each table on a separate page, double-spaced with the complete title at the top of the sheet. Limit the number of characters across the table 40, 60 or 87, and organize the table to make efficient use of the space. Give each table a number and refer to it by that number in the text. Indicate the location of tables as follows:

(Insert Table 1)

There should be no vertical or horizontal lines except those in the heading and at the bottom of the table.

Figures

Figures, including graphs, pictures, line drawings, and flow charts should be included if they will improve clarity, add reader appeal, and are discussed in the text. Graphs and line drawings must be professionally prepared (one per page) in India ink with a mechanical lettering device. The *original* art work (or a glossy photograph of the original) must be submitted for publication. Authors should note that the use of a typewriter to produce the lettering is *not* acceptable.

Each item should have a clear heading and be numbered (e.g., Figure 1). Placement in the text should be indicated on the manuscript.

Photographs, when submitted, should be good clear prints. Do not write on the front or back and do not attach them to other materials with paper clips or staples. Attach a sheet that includes the caption to the back of the picture with tape.

In preparing graphics it is good practice to prepare them twice the size that will be shown in the text. Lettering should be done using 12- or 14-point characters. Remember that they must then be reduced to fit within the dimensions of the column or page. The finished width in the *Journal* will be 55, 85, or 180 mm.

Additional Information

Authors should consult the *Publication Manual of the American Psychological Association* (3rd ed.) for complete information.

Review Process

Research Refereed Section

Copies of research papers will be sent to two or more qualified referees. Within six weeks the author should receive a summary of the referees' decisions, comments, and suggestions. Referees may recommend acceptance, minor changes, major revisions, or rejection of the paper. If the author agrees with the reviewers' comments, a second draft, incorporating suggested changes should be prepared. If the author does not agree with the suggested changes, justification for that stand may be provided. The paper will be published as soon as possible after it is accepted. Copyright and licence-to-use forms are sent when the paper is accepted.

General Interest Articles

All manuscripts are read by the editors and many are submitted to external reviewers. Authors should receive a report on the acceptability of the paper within four to six weeks.

Submission Information

Four copies of papers intended for the research (refereed) section should be submitted to:

Dr. Phyllis J. Johnson, Research Editor
Canadian Home Economics Journal
University of British Columbia
School of Family & Nutritional Sciences
2205 East Mall
Vancouver, BC, V6T 1W5

Three copies of a manuscript intended for the general interest sections should be submitted to:

Nancy Scrutton
Box 74A, R.R. #4
Amherstburg, Ontario
N9V 2Y9

All manuscripts are acknowledged as soon as they are received.

Informations pour la soumissions des textes

Pour ce qui est de la section des articles d'intérêt général, **trois** copies du texte proposé doivent être expédiées à:

Sandra Henrico
295 Brighton Drive
Beaconsfield, Quebec H9W 2L9

Call for Papers
1989-1990

The *Canadian Home Economics Journal* invites articles from home economists and others who share their interest in promoting the well-being of indivduals and families. Papers related to social issues affecting the home economics profession and professional practice, or providing information about professional subject fields are of particular interest.

Contributors will find the Guide for Authors in the Spring 1989 issue, pages 89-90.

Submission deadlines:

Winter	September 15, 1989
Spring	December 15, 1989
Summer	March 1, 1990
Fall	June 15, 1990

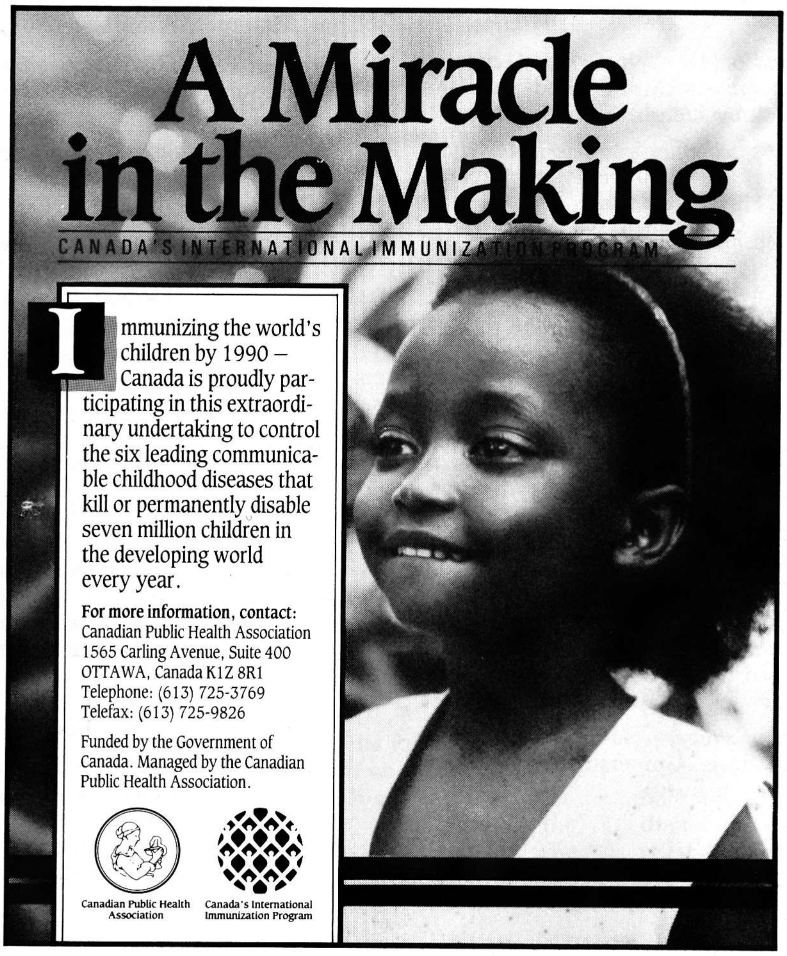
Demande d'articles
1989-1990

La *Revue canadienne d'économie familiale* invite des articles écrits par des spécialistes en économie familiale de même que ceux de toute personne intéressée à promouvoir le bien-être des individus et des familles. Les articles traitant d'aspects sociaux ou apportant quelque information que ce soit dans les divers champ du domaine de l'économie familiale sont particulièrement bienvenus.

Pour collaborer à la Revue, consulter le Guide des auteurs dans le numéro de printemps 1989, pages 89-90.

Dates limites d'envoi des manuscrits:

Hiver	15 septembre 1989
Printemps	15 décembre 1989
Été	1er mars 1990
Automne	15 juin 1990



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Compilation of master's theses and doctoral dissertations in home economics and related areas completed July 1, 1987 to June 30, 1988.

Une compilation de mémoires et de thèses en économie familiale et en des domaines affiliés complétées entre le 1er juillet, 1987 et le 30 juin, 1988.

Family Studies

Betournay, M. (1988). *Mastery pleasure: Facial expression as an index of goal achievement among toddlers.* Unpublished master's thesis. University of Manitoba, Winnipeg. (Adviser: L. Brockman).

Boucher, L.J. (1987). *The R/A program: Evaluation of attitudes.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser, M. Doherty).

Campbell, L. (1987). *Assessing the needs of families with infants in the first year: First borns vs. later borns.* Unpublished master's thesis. University of Guelph, Guelph. (Advisor: M. McKim).

Coppola, L. (1987). *Relocation and the elderly Italian: The impact upon psycho-social maturation.* Unpublished master's thesis. University of Guelph, Guelph. (Advisor: J. Norris).

Fellowes, T. (1988). *Influence of self-efficacy on older adults' effort.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser, N. Hurlbut).

Field, J. (1988). *The relationship between social support and well-being in single mothers.* Unpublished master's thesis. University of Guelph, Guelph. (Advisor: D. Lero).

Foster, D. (1987). *Issues in sex education: A survey of teacher's attending the Guelph sexuality conference.* Unpublished master's thesis. University of Guelph, Guelph. (Advisor: E. Herold).

Gillespie, L.C. (1987). *Paternal behaviors: The process of divorce and descriptors of divorced men.* Unpublished master's thesis. University of Manitoba, Winnipeg. (Adviser: D. Berg).

Harrison, M.J. (1988). *Relationship of family environment, social support, and infant behavior to maternal interactions with term and preterm.* Unpublished doctoral dissertation. University of Alberta, Edmonton. (Adviser, D. Kieren).

Johnson, J.M. (1988). *Attributions, stereotypes and the achievement of the elderly.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser, N. Hurlbut).

Kirchhoff, I. (1988). *Clergy attitudes toward homosexuality.* Unpublished master's thesis. University of Manitoba, Winnipeg. (Adviser: N. Kingsbury).

Kozeluk, L. (1987). *Self-esteem in children and perception of family functioning.* Unpublished master's thesis. University of Guelph, Guelph. (Adviser: G. Kawash).

Kunc, N. (1988). *Beyond acceptance: A value-based framework of family health for families of children with disabilities.* Unpublished master's thesis. University of Guelph, Guelph. (Adviser: C. Guldner).

Lewis, P. (1988). *The urban environment and life satisfaction among the elderly.* Unpublished master's thesis. University of Manitoba, Winnipeg. (Adviser: J. Bond).

MacLeod, E.L. (1988). *The sex-role of adolescents: A comparative study based on curricula and family structure.* Unpublished master's thesis. Université de Moncton, N.B. (Adviser: J. Vachon).

Maina, J.W. (1988). *Social adjustment of Kenyan unmarried mothers.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: B. Munro).

Pura, V.B. (1988). *The relationship between roles, coping strategies, and the ability to cope with changes in morals, values, and technology.* Unpublished master's thesis. University of Manitoba, Winnipeg. (Adviser: D. Berg).

Rankin, E. (1987). *Teachers' attitude toward Bill 82.* Unpublished master's thesis. University of Guelph, Guelph. (Adviser: A. Tari).

Roberts, K. (1988). *Adolescent identified patient in clinical families: Their traits and their influence.* Unpublished master's thesis. University of Guelph, Guelph. (Adviser: M. Fine).

Selles, R.O. (1988). *The process of retirement among Dutch Canadian farmers in Neerlandia, Alberta.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: N. Keating).

Sparks, K. (1987). *The quality of adult daughter/mother relationships.* Unpublished master's thesis. University of Guelph, Guelph. (Adviser: J. Norris).

Whalen, J.C. (1988). *Effects of iron therapy on non-cognitive behavior of iron deficient anemic infants.* Unpublished master's thesis. University of Manitoba, Winnipeg. (Adviser: N. Kingsbury).

Willoughby, J.E. (1988). *Alzheimer's disease and psychiatric institutionalization: Experiences of family caregivers.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: N. Keating).

Food/Nutrition

Begin, France (1988). *Effets des suppléments de fibres alimentaires sur les réponses glycémique et insulinique et sur le fonctionnement du tube digestif chez le rat.* Thèse de maîtrise non publiée. Université Laval, Québec. (Directeur, Laurent Savoie; Co-directeur, Carol Vachon).

Fifth Annual Listing

Ben Romdane, Samia (1988). *Etude de la valeur nutritionnelle de diverses protéines alimentaires consummées quotidiennement en Tunisie.* Thèse de maîtrise non publiée. Université Laval, Québec. (Directeur, John A. Zee).

Bernal, Wendy. (1987). *Sensory and objective textural evaluation of a restructured beef product.* Unpublished master's thesis. University of Guelph, Guelph. (Adviser: G. McCracken).

Britten, J. (1987). *Fat, fatty acids, alpha-tocopherol and macro nutrients in donor breast milk, and the effects of donor diet on milk composition.* Unpublished master's thesis. University of Manitoba, Winnipeg. (Adviser: B. Watts).

Cantin, Louise (1987). *Apport alimentaire en rétinol et en carotène, et niveaux sériques chez des sujets souffrant de cancer.* Unpublished master's thesis. Université de Montréal, Montreal, Québec. (Adviser: M.D. Gélinas).

Catty, Y. (1987). *Insulin restores neural levels of methionine metabolites in diabetic rats.* Unpublished master's thesis. University of Toronto. (Adviser: G.E. Greenwood).

Chapman, G. (1987). *The effect of taurine on brain Na, K-ATPase.* Unpublished master's thesis. University of Toronto. (Adviser: C.E. Greenwood).

Cuff, D. (1988). *Factors affecting small intestinal carbohydrate digestibility in man.* Unpublished master's thesis. University of Toronto. (Adviser: D.J.A. Jenkins).

Davis-Street, J.E. (1988). *The effect of energy intake on central and peripheral norepinephrine turnover in lean mice.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: J. Johnston).

Desjardins, Danielle (1988). *Effet de l'exercice sur le maintien de l'intégrité osseuse chez des rates en période de croissance.* Unpublished master's thesis. Université de Montréal, Montreal, Quebec. (Adviser: M. Ledoux).

Desrosiers, Thérèse (1988). *Effets des traitements thermiques sur la digestibilité in vitro des acides aminés des protéines de lactosérum.* Thèse de doctorat non publiée. Université Laval, Québec. (Directeur, Laurent Savoie).

Elias, R.A. (1988). *The effect of protein or amino acid supplementation on the nutritional status of patients on continuous ambulatory peritoneal dialysis.* Unpublished master's thesis. Macdonald College of McGill University, Montreal. (Adviser: A. Hope McArdle).

Fitzpatrick, K. (1987). *The effect of a soluble fibre (beta glucan) on fecal acidic steroid excretion and serum lipids in normolipidemic young men.* Unpublished master's thesis. University of Manitoba, Winnipeg. (Adviser: V. Bruce).

Galibois, Isabelle (1987). *Importance de la protéolyse luminale dans la biodisponibilité des acides aminés alimentaires.* Thèse de doctorat non publiée. Université Laval, Québec. (Directeur, Laurent Savoie).

Gauthier, M.J. (1987). *Nutrition and related attitudes and health practices of elderly women living alone.* Unpublished master's thesis. University of Manitoba, Winnipeg. (Adviser: R. Diamant).

Geoffroy, P. (1987). *The effects of phenylalanine of feeding behavior by rats.* Unpublished master's thesis. University of Toronto. (Adviser: G.H. Anderson).

Hill, J.V. (1988). *The effect of intestinal microflora upon pre-neoplastic events in the colon.* Unpublished master's thesis. University of Toronto. (Adviser: A.V. Rao).

Kendall, C. (1987). *The influence of quillaja saponin on serum lipids and intestinal function.* Unpublished master's thesis. University of Toronto. (Adviser: A.V. Rao).

Khajah-Sharafabadi, S. (1988). *Chemical and physical properties of mucilage from canola (Brassica campestres cv Candle).* Unpublished master's thesis. University of Manitoba, Winnipeg. (Adviser: M. Eskin).

Lacombe, André (1987). *Evaluation de la mutagénicité du malonaldéhyde.* Unpublished master's thesis, Université de Montréal, Montreal, Quebec. (Adviser: B. Mills).

Lavigne, Charles (1988). *Effets des traitements thermiques et des conditions d'entreposage sur la qualité nutritionnelle et la durée de conservation du lait de chèvre.* Thèse de maîtrise non publiée. Université Laval, Québec. (Directeur, John A. Zee; Co-directeur, Ronald E. Simard).

Marette, André (1987). *Influence des acides gras polyinsaturés sur la prolifération des adipocytes.* Unpublished master's thesis, Université de Montréal, Montreal, Quebec. (Adviser, M. Houde Nadeau).

Marriage, B.J. (1987). *The effect of energy intake, body intake, body fat content and food deprivation on hypothalamic norepinephrine metabolism.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: J. Johnston).

McCargar, L.J. (1988). *Dietary carbohydrate to fat ratio influences protein and energy utilization in man and animals.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: T. Clandinin).

McMullen, L.M. (1988). *The efficacy of ascorbyl palmitate in enhancing the storage and heat stability of canola oil.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: Z. Hawrysh).

Nelson, John (1987). *Etude de l'état nutritionnel de patients immunosupprimés, avant et après manipulations diététiques.* Unpublished master's thesis, Université de Montréal, Montreal, Quebec. (Adviser: H. Beauregard et M.D. Gélinas).

Nielsen, B. (1987). *Effect of phytic acid on colonic bacterial enzymes and epithelial cell proliferation.* Unpublished master's thesis. University of Toronto. (Adviser: L.U. Thompson).

Ounpuu, S. (1988). *Seasonality, child nutrition and women's activity patterns: A case study in Chilunga Village, Malawi.* Unpublished master's thesis. University of Guelph, Guelph. (Adviser: J. Sabry).

Poirier, D. (1988). *Nutrient absorption from liquid therapeutic diets on animal model.* Unpublished master's thesis. Macdonald College of McGill University, Montreal. (Adviser: J. Adelson).

Randall, J. (1987). *Evaluation of serum, urine and hair chromium levels as indices of chromium exposure and the relationship of these indices to serum lipid and insulin levels.* Unpublished doctoral thesis. University of Guelph, Guelph. (Adviser: R. Gibson).

Rivest, Serge (1987). *Effets de l'entraînement physique et du calcium alimentaire sur le maintien de l'intégrité osseuse chez des rates ovariectomisées.* Unpublished master's thesis, Université de Montréal, Montreal, Quebec. (Adviser: M. Ledoux).

Seyoum, G. (1988). *Nutrition survey methods: Experience from Ethiopia and field methodology to assess vitamin A status.* Unpublished master's thesis. University of Manitoba, Winnipeg. (Adviser: G. Sevenhuysen).

Simon, A.M. (1988). *The effect of sodium intake on sympathetic nervous system activity in normotensive mice.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: J. Johnston).

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Travers, K. (1988). *Development of a lifestyle education program from a critical science perspective: Effects on cardiovascular risk.* Unpublished master's thesis. Mount Saint Vincent University, Halifax, Nova Scotia. (Adviser: A. Murphy).

Vogel, S.M. (1987). *Development of methodology for determining the consumer acceptance of a new crop in a developing country.* Unpublished doctoral dissertation. University of Alberta, Edmonton. (Advisers: M. Stiles, Z. Hawrysh).

Weingartshofer, M. (1987). *The effect of dietary protein on cholesterol and bile acid metabolism in the Mongolian gerbil.* Unpublished master's thesis. University of Guelph, Guelph. (Adviser: N. Mercer).

Wilsack, L. (1987). *The development and evaluation of a nutrition education program for female ballet students attending the school of the Royal Winnipeg Ballet, professional division.* Unpublished master's thesis. University of Manitoba, Winnipeg. (Adviser: R. Diamant).

Wykes, L. (1988). *The effect of oral vs intravenous feeding on glycine, leucine and phenylalanine flux in the low birth weight infant.* Unpublished master's thesis. University of Toronto. (Adviser: P. Pencharz).

Ylimkai, G.L. (1987). *The application of response surface methodology to the development of rice flour yeast bread.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: Z. Hawrysh).

Zacharias, L. (1988). *Evaluating the photomethod: A validity study.* Unpublished master's thesis. University of Manitoba, Winnipeg. (Adviser: G. Sevenhuysen).

Zarkadas, M. (1988). *Effects of sodium chloride supplementation on urinary calcium, other urine and blood electrolytes and PTH in postmenopausal women.* Unpublished master's thesis. Macdonald College of McGill University, Montreal. (Adviser: M. Mackey).

Zello, G. (1988). *Phenylalanine kinetics in man.* Unpublished master's thesis. University of Toronto. (Adviser: P. Pencharz).

Clothing/Textiles

Blenkarn, D.L. (1986). *Home sewing: Satisfaction with sewing as a household production activity.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: N. Fetterman).

Drohan, M.A. (1987). *Motivations of adults to participate in sewing courses.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: N. Fetterman).

Jennings, G.K. (1984). *Consumer assessment of flexible insulative window shades: An application of the Fishbein-Ajzen model.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: E. Crown).

MacDonald, S.E. (1985). *Family member involvement in the consumer decision process.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: E. Crown).

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Martin-Scott, S.Y. (1987). *The effect of abrasion pesticide penetration through disposable coverall fabrics.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: N. Kerr).

Oakes, J.E. (1988). *Copper and Caribou Inuit skin clothing production.* Unpublished doctoral Dissertation. University of Manitoba, Winnipeg. (Adviser: M.E. Tyrchniewicz).

Perkins, H.M. (1988). *Attitude and behavior of farmers toward disposable protective coveralls: An experimental field study.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: E. Crown).

Sinnott, S. (1985). *Clothing as an investment in human capital.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: A. Kernaleuguen).

Watson, M. (1987). *The quality of working life in the knitwear industry of Southwestern Ontario.* Unpublished master's thesis. University of Guelph, Guelph. (Adviser: A. Wilcock).

Wells, K.L. (1988). *Children's cognitive and affective response to costume reproductions worn by a female interpreter at the Victoria settlement, an Alberta provincial historic site.* Unpublished master's thesis. University of Alberta, Edmonton. (Adviser: A. Lambert).

Home economics education

Owolabi, E.A. (1987). *Home economics programs in Oyo State secondary schools.* Unpublished master's thesis. University of British Columbia. (Adviser: M. Arcus).

1988-1989 Undergraduate Enrolment Data

University Programs in Home Economics and Related Units

Name of University	Undergraduate Program	1st	2nd	3rd	4th	Part-Time	Total
Acadia	BSc(HEc)	22	36	24	26	6	114
Alberta	BSc	83	131	112	126	22	474
	**BEd						
British Columbia	BHE	15	15	15	15	—	60
	BA	—	—	10	9	—	19
	BSc	20	45	62	65	—	192
	BEd (after degree)	—	—	—	—	—	10
Guelph	BASc Family/Cons.	323	281	265	239	70	1178
	BComm Hotel/Food	149	105	105	94	19	472
Laval	BSc	142	145	138	38	73	536
	Cert. cons.	31	—	—	—	5	36
Manitoba	BHEcol	212	146	144	164	—	666
	BHEcol/BEd	6	9	4	5	—	24
McGill	BSc(Nutr.Sc.)	50	118	38	—	—	206
Memorial	BSc	—	2	13	4	—	19
Moncton	BSc	23	19	16	30	1	89
Montreal	BSc(Nutr.)	59	41	42	46	4	192
Mount St. Vincent	BScHE	41	31	35	50	8	165
	BHEc	17	29	26	39	2	113
	BHE/BEd	—	—	—	—	—	10
New Brunswick	BEd	14	14	8	4	12	52
Ottawa	BSc	—	—	—	12	1	13
PEI	BSc(HEc)	30	16	14	12	2	74
Ryerson	BAA	65	80	85	80	35	345
Saskatchewan	BSHEc	—	1	34	32	—	67
	BSc(Nutr.)	32	22	12	23	2	91
St. Francis Xavier	BSc	25	22	20	30	2	99
Toronto	BSc(Nutr.)	—	69	50	*66	—	185
Western	BSc(HEc)	51	64	41	26	12	194
Windsor	BA(SocSc)	—	8	10	—	31	49
	Family Studies	7	—	—	—	4	11

* Includes continuing students.
**No data provided.

1988-1989
Graduate Enrolment Data
University Programs in Home Economics and Related Units

Name of University	Graduate Program	Full Time	Part Time
Acadia		—	—
Alberta	MSc	63	—
	**MEd		
	PhD	6	—
British Columbia	MA	6	—
	MSc	8	—
	MEd	2	10
	PhD	2	—
Guelph	MSc (Fam/Cons)	37	16
	PhD (Family)	6	1
Laval	MSc	9	4
	PhD	2	—
Manitoba	MSc	48	7
McGill	MSc	8	1
	PhD	5	—
Memorial	MSc	1	—
	PhD	2	—
Moncton	MSc	3	2
Montreal	MSc	35	9
	PhD	9	—
Mount St. Vincent	MA (HEcEd)	9	22
New Brunswick	MEd	—	1
Ottawa	MSc/PhD	6/3	—
PEI		—	—
Ryerson		—	—
Saskatchewan		—	—
St. Francis Xavier		—	—
St. Francis Xavier		—	—
Toronto	MSc	22	3
	MHSc	11	—
	PhD	16	1
Western		—	—
Windsor		—	—

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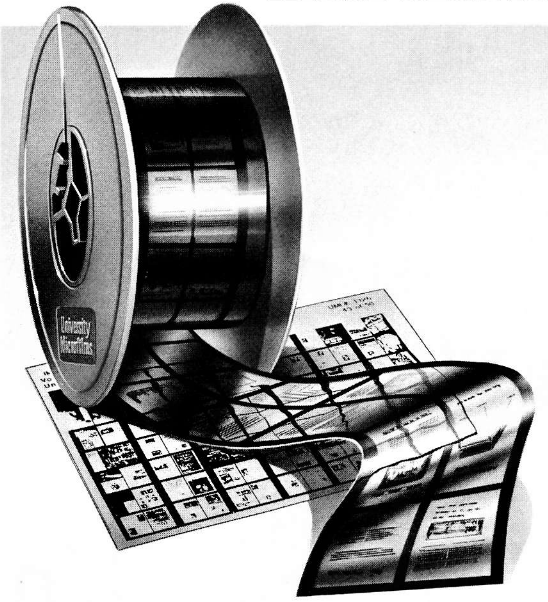

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Home Economics Position

Kenyatta University/ University of Alberta

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Qualifications: Master's degree required, Ph.D. preferred. Previous experience in developing country an asset.

Appointment and Salary:
Assistant Professor
Salary Range $33,144.00 - $37,267.00 dependent upon qualifications.
Housing is provided by Kenyatta University.

Application Deadline: May 31, 1989.

Beginning Date: September 1, 1989 for one year with possible two year extension.

General Information: The University of Alberta and Kenyatta University have entered into a CIDA/ICDS funded project designed to strengthen the Department of Home Economics at Kenyatta University. Kenyatta University is located about 25 kilometers from Nairobi, Kenya. A three year degree focusing on educational roles is offered by the Department of Home Economics. There are fifteen faculty members with three currently on educational leave.

Application Procedures: Send letter of application, current resume and the names, addresses and phone numbers of referees to:

Dean E. Murray, Project Director
Faculty of Home Economics
115 Home Economics Building
University of Alberta
Edmonton, Alberta T6G 2M8

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